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Field-to-Stream Transport of Agricultural Chemicals and Sediment in an Iowa Watershed Part 2. Data Base for Model Testing (1979-1980)

Iowa Agricultural and Home Economics Experiment Station, Ames

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FIELD-TO-STREAM TRANSPORT OF AGRICULTURAL CHEMICALS AND SEDIMENT IN AN IOWA WATERSHED
Part II: Data Base for Model Testing (1979-1980)

by

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Cooperative Agreement Number CR806603

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16. ABSTRACT

In a continuation of a previous project, data were collected on the field-to-stream transport of sediment, nutrients, and pesticides in an agricultural watershed. These data contribute to an improved qualitative understanding of the field-to-stream processes involved and provide a quantitative base for testing mathematical models that predict hydrology, erosion, and sediment and chemical transport. During the study reported here (1979-1980), data were collected for small corn, soybean and pasture fields; for two larger mixed-cover subwatersheds; and at three drainage stream sites. Rainfall was well above average in 1979 and slightly below normal in 1980. Flow from the watershed was roughly half subsurface flow and half runoff, with about half of the surface runoff being snowmelt. The severe runoff-erosion events in 1979 resulted in field runoff losses of herbicide as high as 7.2% (for metribuzin) most of which was associated with the water phase for the four herbicides studied (laachlor, propachlor, cyanazine, and metribuzin). The maximum loss from the whole watershed in 1979 was 2.0% (for metribuzin). In 1980, the maximum field loss was 2.8% (for cyanazine); for the whole watershed, maximum loss was 1.9% (for alachlor).

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FOREWORD

Environmental protection efforts are increasingly directed towards preventing adverse health and ecological effects associated with specific compounds of natural or human origin. As part of this Laboratory's research on the occurrence, movement, transformation, impact, and control of environmental contaminants, the Technology Development and Applications Branch develops management and engineering tools for assessing or controlling toxic substances in the environment.

Nonpoint sources contribute significantly to water pollution problems in many areas of the United States. Emphasis in the control of nonpoint pollution sources is on the use of best management practices (BMPs), such as conservation tillage, terracing and soil incorporation of chemicals. Mathematical models have been developed to predict BMP effectiveness for different chemicals and field conditions. This report presents field data collected in Iowa for use in validating these models.

William T. Donaldson
Acting Director
Environmental Research Laboratory
Athens, Georgia

ABSTRACT

This project, conducted by staff from the Iowa Agriculture and Home Economics Experiment Station, was a 2-year continuation of a previous 3-year project to collect data on the field-to-stream transport of sediment, nutrients and pesticides. These data provide for an improved qualitative understanding of the field-to-stream processes involved, and provide a quantitative basis for comparison against predictions from mathematical models on hydrology, erosion, and sediment and chemical transport. These models are being used as tools to evaluate alternative management practices to control nonpoint source pollution from cropland; therefore, it is very important that they be as accurate as possible in their predictions.

During the study reported here (1979-1980), data were collected for small (5.0 to 6.4 ha) corn, soybean and pasture fields; for two larger (150 and 285 ha) mixed-cover watersheds; and at three drainage stream sites (350 to 5055 ha). Land planted to corn and soybeans accounted for 80% of the 5055 ha area in 1979 and 1980, an increase of 25% from 1970. The proportion of corn fertilized increased from 88% in 1970 to 99% in 1980, and N application rates increased from 123 to 178 kg/ha; therefore there was 2.3 times as much N applied to the area in 1980 as in 1970. Total application of P was 1.5 times as much in 1980 as in 1970, although per hectare rates were slightly decreased. Herbicide use on corn and soybeans increased from 1970 (70 and 75%, respectively) to the point in 1980 when over 99% of the row-crop area received herbicide treatment. Insecticide use on corn increased from 54% of the area in 1970 to 70% in 1980. During the total 5-year study, there was a large increase in the use of a disk or chisel plow in place of the moldboard plow. In 1976, 51, 38 and 11% of the cropland was moldboard plowed, disked and chisel plowed, respectively. In 1980, the corresponding figures were 16, 54 and 28% (there was 1% till-plant and less than 1% no-till).

In 1979, annual rainfall (1009 mm) was well above the long-term average (823 mm), with several intense rainstorms occurring in June and July. As a result, stream flow (445 mm) was over twice the normal amount, and sediment losses from the row-crop field sites were very high (average of 63.3 t/ha). In addition, roughly 20 to 50% of the sediment load that arrived at the sampling stations on the row-crop field sites was deposited before being sampled, so in-field soil losses were even higher. This, combined with decreasing sediment loads at downstream locations, exhibited the sediment trapping effects of fencelines, waterways and so on. Soil loss from the watershed as a whole was 7.6 t/ha in 1979. In 1980, precipitation (744 mm) and stream flow (182 mm) were just slightly below normal; soil loss from the watershed was 3.8 t/ha. Sediment particle size data showed that for severe events, average sizes decreased from field to intra-basin stations to stream.

Stream channel cross section data showed that the channel continued to become deeper and wider.

In December 1979, P was fall-applied without incorporation; as a result, PO_4-P concentrations in snowmelt and rainfall-runoff were over 1 mg/L until the fertilizer was soil-incorporated using tillage. Flow from the watershed was roughly half subsurface flow and half surface runoff, with about half of the surface runoff being snowmelt. During extended high flows between surface runoff events, in-stream NO_3-N concentrations were high and very similar to those in flow from shallow subsurface tile drains. The percentage of stream flow at any given time that was made up of subsurface drainage could be estimated from knowledge of in-stream NO_3-N concentrations and those in surface and subsurface flows. NO_3-N losses from the whole watershed in stream flow averaged 25 kg/ha, equal to 28% of that applied as fertilizer.

The severe runoff-erosion events in 1979 resulted in herbicide field runoff losses as high as 7.2% (for metribuzin), most of which was with water for the four herbicides studied (alachlor, propachlor, cyanazine and metribuzin). The maximum loss from the whole watershed in 1979 was 2.0% (for metribuzin). In 1980, the maximum field loss was 2.8% (for cyanazine), for the whole watershed, 1.9% (for alachlor).

This report was submitted in fulfillment of Cooperative Agreement No. CR-806603 by Iowa State University under the sponsorship of the U.S. Environmental Protection Agency. This report covers a period from January 1979 to September 1981, and work was completed as of March 1983.

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M.A. Borcherding, research associate, was the field manager on the project responsible for maintaining the field installations and conducting the farmer interviews and watershed inventory. He was also involved with hydrology, sediment and nutrient data analyses.

G.E. Smith, research associate, was involved in data reduction and analysis, report organization and editing, and laboratory analyses.

K.R. Helmlinger, research associate, was involved in data reduction.

J.M. Hamlett, research associate, was responsible for sediment and stream cross section measurements and data analyses, while helping with day-to-day field operations.

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SECTION 1

INTRODUCTION

In an effort to achieve national water quality goals, water pollution control activities have been directed increasingly at agricultural nonpoint sources. This resulted from the knowledge that control of point municipal and industrial sources alone will not allow the goals to be reached, particularly in predominantly agricultural areas such as Iowa. In addition, the increasing role of agriculture in our national economy and international trade has resulted in more intensive agricultural management to increase production. Consequently, more land is being put into production; land which is usually less suitable for cropping because of poor soils or steeper slopes. Also, chemical inputs are being increased to produce higher yields on currently cropped land.

The study watershed for this report illustrates these two factors. Between 1970 and 1980, the percentage of the watershed in row-crops increased from 55 to 80%; land in pasture, hay, grass, oats, government set-aside, and wood lots was reduced. Herbicides were applied to 40% of the watershed in 1970 and to 80% in 1980; nitrogen fertilizer use increased 2.3 times in this period, due to the increased area of row-crops, increased percentage of row-crop area treated, and increased application rates.

While increased erosion and agricultural chemical losses are unintended side effects of the highly productive agricultural systems, research has demonstrated that management practices can be used to help control these undesirable effects. The concept of Best Management Practices (BMPs) was developed as the primary means of controlling agricultural nonpoint sources of pollution. These practices are to be effective and technically feasible, and socially and economically acceptable. Primary examples are practices such as conservation tillage, terraces, and grassed waterways that decrease sediment loss and sediment-associated pollutants, and others, such as soil incorporation of chemicals, that decrease chemical interaction with overland flow and thereby decrease chemical concentrations and losses in surface runoff.

It is neither physically nor economically practical to field test every potential BMP for all the chemicals and possible combinations of weather and field conditions. Therefore, work has been undertaken to develop mathematical models (from our knowledge of physical and chemical processes) capable of predicting BMP effectiveness for different sets of conditions. In the development of these models, understanding transport processes in the field and possible chemical transformations and their impact on concentrations and losses is important. In addition, once a model has been developed, field data are necessary to test its validity.

In 1975, a grant was given by the U.S. Environmental Protection Agency (EPA) to Iowa State University (ISU) to begin the collection of field data to provide understanding and a means for testing models being developed. The period of 1976 to 1978 was the first part of a two part study, when data under existing watershed conditions were obtained for the 50.5 km^2 Four Mile Creek watershed in Tama County, Iowa. Results from this period were presented in a report entitled "Field-to-Stream Transport of Agricultural Chemicals and Sediment in an Iowa Watershed, Part 1: Data Base for Model Testing (1976-1978)." The report (EPA-600/3-82-032) is available from the National Technical Information Service.

The second part of the study, begun in 1979, was envisioned as continued data collection until at least 1983, with a concerted effort at implementation of BMPs in the watershed early in the 1979 to 1983 period so that their effects on the water quality of agricultural drainage from a large area could be determined. Through considerable organizational effort by the U.S. EPA staff at Athens, ISU research and extension staff, SCS and ASCS county, State and Federal staffs, with some help from the Iowa Departments of Soil Conservation and Environmental Quality, arrangements were made to promote the use of BMPs, and special educational efforts and increased cost sharing were initiated to accelerate adoption of practices in the Four Mile Creek watershed. Farmer interest and involvement in the project were significant and increasing when early in 1980 it became apparent that Federal support of the project was likely to be discontinued, and that it was too costly for the State to support alone. Funding was terminated by the end of 1980, and field monitoring was discontinued. At that time, conservation tillage was rapidly being adopted; as an example of the change, in 1976 54% of the row-cropped area was moldboard plowed, by 1980 this had decreased to 17%.

When it was clear that the field research phase of the project would be discontinued, U.S. EPA staff at Athens funded and helped ISU staff plan a national conference to culminate this and other projects, and to gather and disseminate information on the state-of-the-art with respect to agricultural nonpoint source pollution problems and their management. Twenty-five papers were presented covering work from various institutions, including universities, government agencies, and practicing engineering groups. The proceedings of the conference, held May 26 - 29, 1981, on the ISU campus, entitled "Agricultural Management and Water Quality," will be published by ISU Press in 1983.

This report presents and analyzes the 1979 to 1980 field data on runoff, and sediment and chemical losses for three small, single cover watersheds (including soil sampling data), two mixed cover, intra-basin watersheds, and three stream stations, within the Four Mile Creek watershed. Watershed inventory and weather data are included, together with data on sediment sizes, sediment deposition, and the stream channel as a sediment source. In 1979. precipitation was above average, and four intense storms caused severe erosion in parts of the watershed. In 1980, precipitation was below average, but several runoff events occurred during the growing season. This report, although it stands alone, is abbreviated, and is complemented by the earlier report for the 1976 to 1978 study period. It is recommended that the two reports be used in conjunction.

SECTION 2

OBSERVATIONS AND CONCLUSIONS

HYDROLOGY

-- Considerable areal and temporal variations in rainfall occurred within the 5055 ha watershed for any given event, undoubtedly affecting runoff (and associated chemical and sediment loss) and making prediction of flow fron the watershed difficult.

-- Flow from the watershed was roughly half subsurface flow and half surface runoff. Half or more of the surface runoff was snowmelt runoff.

-- For the study conditions of this watershed, the difference between concentrations of NO_3-N, Cl and TDS in subsurface flow (measured in tile drainage water) and concentrations in field surface runoff, indicates that these data could be used to predict the percentage of surface runoff in stream flow.

-- During extended high flows between surface runoff events, high in-stream NO_3-N concentrations were very similar to those in monitored shallow subsurface tile drains, implying that much of the stream flow at these times was from the drains. During low flow winter conditions, in-stream NO_3-N concentrations were much lower.

-- For smaller, less severe runoff events, the field sized watershed with the most recent or more intensive tillage had significantly less runoff.

-- For the four severe runoff events of 1979 (runoff total 120 mm), runoff amounts from both field sized watersheds (sites 1 and 2) for each event were nearly identical, despite differences in timing and degree of tillage, and in crop canopy.

-- Amounts of surface runoff from the row-cropped watersheds were generally higher than amounts of surface runoff (separated from subsurface flow) determined for Four Mile Creek watershed (about 80% row-cropped), which contained the row-cropped watersheds.

-- Surface runoff from the pasture watershed was mostly snowmelt; runoff from rainfall occurred only during intense rain storms.

-- During the spring thaw, tile flow began (or increased) at about the time snowmelt began, although soil thermometers in upland areas indicated that the soil was still frozen. This, plus high NH_4-N and PO_4-P

concentrations implies that flow through the soil profile was not uniform, but concentrated in areas where the frost barrier was incomplete.

SEDIMENT

-- For all rainfall-runoff events analyzed, as runoff flowed from field to intra-basin station to the main channel, the sediment load decreased on a unit-area basis. However, for snowmelt, field losses were less than stream losses on the unit-area basis.

-- Generally sediment concentrations in runoff from the soybean watershed (corn residue incorporated by moldboard plowing) were appreciably greater than for the corn watershed (disked bean residue); however, the opposite was true when a chisel plow was used to incorporate the corn residue.

-- The load-weighted sediment size distributions at the main watershed outlet were similar for all May to July events and finer than those for the row-cropped watersheds, however size distributions for the row-cropped watersheds varied considerably with event, more coarse material being transported during extreme runoff events. At the intra-basin site, below a grassed waterway, the size distribution was the finest of all sites for lesser events, but intermediate between the field and stream sites for severe runoff events.

-- Sediment deposition in the pondage area above the flow-measuring stations for the row-cropped watersheds was appreciable. This observation plus that of decreasing sediment loads at downstream locations demonstrated the sediment trapping which resulted from ponding above fencerows, roadways or other constrictions in the flow path. Ponding and the resulting sediment deposition undoubtedly occurs in most agricultural watersheds.

-- In the long term the stream channel is becoming deeper and wider, thereby providing a source of sediment.

-- In the short term there is some evidence that sediment is flushed from the channel with the sustained high flows of spring snowmelt, and builds up during the remainder of the year.

NUTRIENTS

-- The sustained high NH_4-N concentrations (~ 1 ppm) in stream flow occurring during snowmelt are believed to be partly due to the NH_4-N present in snowfall (or adsorbed from the atmosphere by snow on the soil surface) and the decreased interaction of NH_4-N in runoff water with soil.

-- For rainfall-runoff from row-cropped watersheds not recently fertilized, NH_4-N concentrations in runoff are less than in precipitation because of extraction by adsorption to the soil.

-- For at least the first event after the addition of N fertilizer to the corn watershed followed by disk incorporation, NH_4-N and NO_3-N

concentrations in runoff were above average, decreasing with later events. However, NO_3-N concentrations in surface runoff for the first event were still less than those found in subsurface drainage water. Because of the large volumes and the high NO_3-N concentrations of subsurface drainage, NO_3-N losses from the watershed in stream flow (1979 and 1980) averaged 25 kg/ha, 28% of the applied N (1979 was a wet year).

-- Concentrations of PO_4-P in winter surface runoff and snowmelt following fall P application to the row-cropped watersheds without incorporation, were higher by a factor of 10 to 15 times than when P had not been applied, although losses were only about 1 kg/ha.

-- Concentrations of PO_4-P in stream flow during snowmelt were much higher than average, and believed due to unincorporated fertilizer, animal wastes, and some crop residues (grass or hay in particular) on the soil surface (concentrations in runoff from the fertilized and grazed pasture were also high). However, PO_4-P release from surface corn and soybean residue on the row-crop watersheds was low at snowmelt time.

-- Concentrations of PO_4-P within a rainfall-runoff event for the row-cropped watersheds were generally highest during low flows near the end of runoff, presumably because of decreased dilution and more intimate, longer interactions between soil and runoff water.

-- Concentrations of PO_4-P in stream flow during a runoff event were usually highest immediately after the peak sediment concentration, and therefore occurred near or slightly after peak flow. It is possible that buffering of PO_4-P concentrations by sediment at high sediment concentrations was occurring.

-- Total N and P concentrations in sediment in runoff samples increased as the sediment concentration decreased. The equation: nutrient conc. = $a(\text{sedt. conc.})^{-b}$, where a and b are empirical parameters, fitted the data quite well.

PESTICIDES

-- The severe runoff-erosion events in 1979 resulted in herbicide field runoff losses as high as 7.2%, most of which was with water for all four herbicides studied; maximum loss in 1980 was 2.8%. Losses from the whole watershed were less: a maximum of 2.0% in 1979 and 1.9% in 1980.

-- Chisel plowing, by reducing runoff and erosion, in 1980 reduced herbicide field runoff losses of alachlor to below those for the whole watershed (on a percent of applied basis), whereas in the previous four years of moldboard plowing, field alachlor losses were greater.

-- Concentrations of alachlor, metribuzin and propachlor in sediment were about 2 to 10 times greater than in runoff water, but less than in the 0 - 1 cm layer of soil; for cyanazine, concentrations in sediment were about 10 to 20 times those in water, and were more nearly equal those in the 0 - 1 cm layer, although generally still less.

SECTION 3

RECOMMENDATIONS

-- Concern for (and modeling of) pollutants transported with subsurface drainage needs to be emphasized, along with that for surface runoff in cases where volume of subsurface drainage is significant.

-- The factors important in determining the effect of recent tillage, including cultivation, on runoff volumes, and how this effect declines with time (or precipitation), need to be defined.

-- Better understanding of water movement and balance under winter conditions is needed (e.g. relative to soil moisture migration, frost formation and snow sublimation), because snowmelt is significant in determining water and soluble chemical losses.

-- Factors determining sediment deposition within an agricultural watershed, which is important in determining the sediment delivery, need to be quantified.

-- The possibility that a cycle exists whereby sediment is deposited in water courses during lesser events to be eroded during high flows, such as snowmelt, needs further study.

-- Additional analyses of chemical-sediment partitioning and enrichment relative to sediment particle size should be performed.

-- Better management systems for the increasing amounts of nitrogen applied to crops need to be developed and implemented to decrease the environmental, as well as economic and energy concerns associated with NO_3-N leaching losses.

-- The problems of chemical application with conservation tillage (e.g. incorporation of nutrients without incorporation of residue, or possible runoff and volatilization losses of herbicides applied to crop residues) need to be solved to obtain the greatest benefits from this increasingly accepted practice.

-- The water quality benefits of applying BMPs to a large area are yet to be demonstrated on both a physical-chemical basis, and probably more importantly, on a biological basis.

SECTION 4

DESCRIPTION OF STUDY AREA

THE REGION

The Four Mile Creek watershed is contained within the Iowa-Cedar River basins in the eastern half of Iowa (Figure 1). Two approximately parallel rivers, the Iowa and the Cedar, flow to the southeast before converging and flowing into the Mississippi River below Muscatine, Iowa. Four Mile Creek flows east into Wolf Creek, which flows east into the Cedar River. The Iowa-Cedar basins contain 33,600 km^2, about one-fourth of the area of Iowa. Detailed description of the water and land resources in the basin is presented in a USDA study (1976).

The climate of the area is of the continental type. The average annual temperature is 8.5°C; the average growing season is about 150 days. Normal annual precipitation varies from 76 cm in the northwest to 91.5 cm in the southeast; depth of annual snowfall varies from 122 cm in the northwest to 61 cm in the southeast (representing probably 10 to 20% of total precipitation on a water basis). Nearly three-fourths of the average annual precipitation occurs during the growing season. The mean temperature in June, July and August varies from 16.5 to 17.8°C.

The valleys of the basin are in glacial topography, and the land surface features indicate multiple glaciation. The headwaters rise in recently glaciated, poorly drained lands represented by Land Resource Area 103 (Central Iowa and Minnesota Till Prairies). Land Resource Area 104 (Eastern Iowa and Minnesota Till Prairies) covers the northeast portion of the basin, and is gently rolling but often needs drainage. The part of the basin in which Four Mile Creek is located is represented by Land Resource Area 108, the Illinois and Iowa Deep Loess Drift. Erosion is a serious problem on more sloping areas.

The average annual runoff for the basin varies from 12.5 cm in the north to 20 cm in the south. Annually, highest flows usually occur with snowmelt (March) and from storms in June and July. Groundwater supplies are plentiful and generally of good quality, although some shallow aquifers contain poor water quality. Deep aquifers are of porous or creviced bedrock; large wells can yield 4000 to 13,000 liters per minute of high quality water, and domestic wells produce about 40 to 150 liters per minute.

The Iowa-Cedar basin agricultural land use is dominantly row-crop grain production. About 79% of the area is cropped; over 60% is in corn and

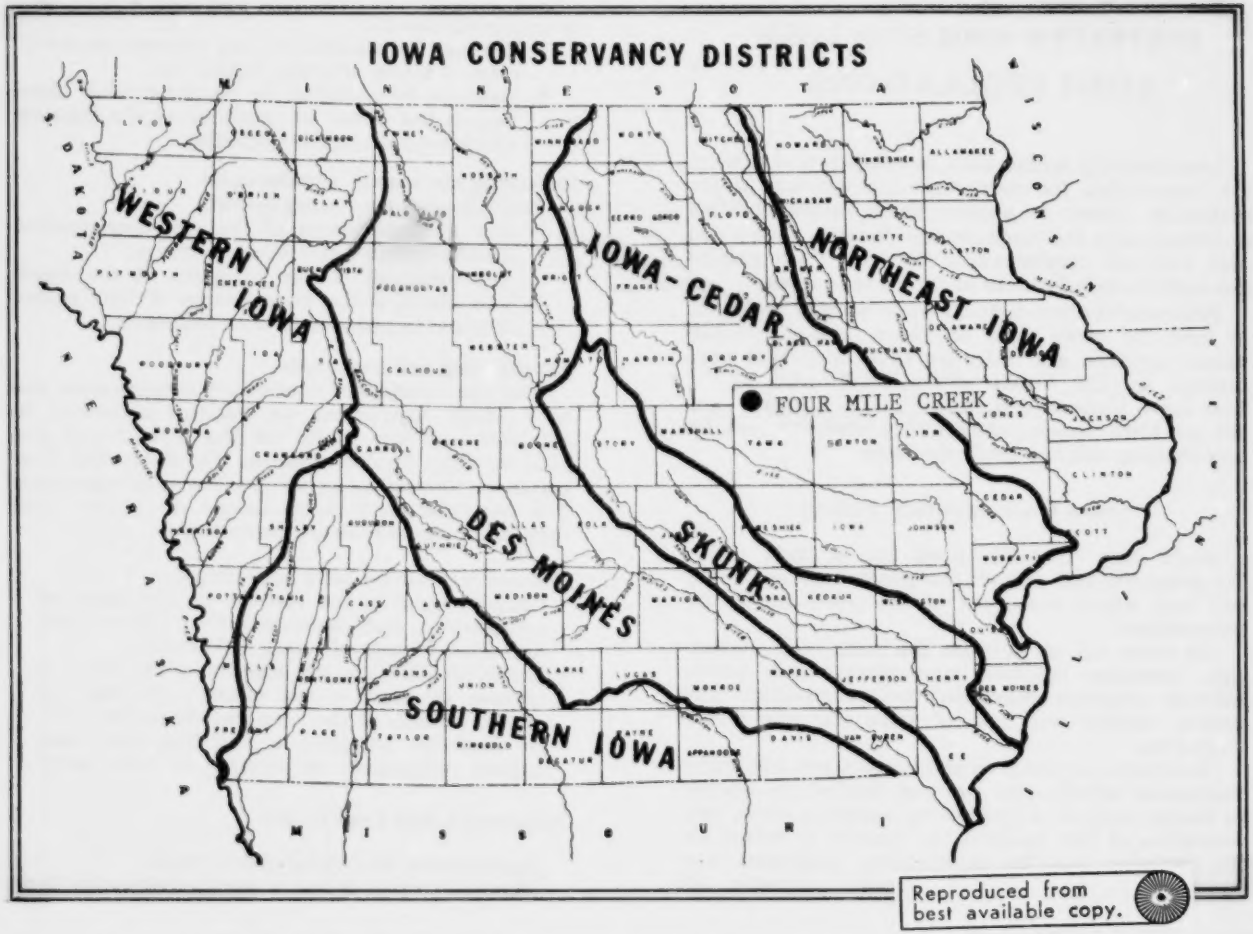

Figure 1. Location of Four Mile Creek watershed within the Iowa-Cedar River Conservancy District.

soybeans. The northern third of the basin was recently glaciated, and was drained for agricultural purposes. Pasture and forest areas represent 8 and 4% of the land, respectively. Forested bottom lands along streams provide diversity and recreation. Streams are classified primarily as warm water recreation.

THE STUDY AREA

The Four Mile Creek watershed, northwestern Tama County, is located at 42°12'N latitude and 92°35'W longitude. The watershed, which has a northwest-southeast orientation, is about 2.5 km wide and about 15 km long (Figure 2). The topographic features of the watershed are related to glaciation, and subsequent modification during recent time. Glacial deposits (Kansan till) mantle the bedrock to a maximum thickness of about 110 m. An overlying loess mantle (Wisconsin loess) covers most of the till; the loess may be as much as 10 m deep along the drainage divides, but thins along the valley sides.

The watershed is typical of the heavily cropped areas of Iowa where drainage is well developed. The sea level elevation varies from about 276 m in the channel at the outlet, to about 325 m in the upland areas of the watershed. The average water yield for the 17 years of record is 210 mm; the average discharge is 0.31 m^3/s. Flood discharges of about 30 m^3/s have been reported for the 50.5 km^2 area. Sediment yields are about 100 tonne/km^2, but vary among small watersheds. Drain tile have been installed along the waterways, in some fields in the floodplain along the main channel, and in some of the upper regions of the watershed with less sloping topography. A small percentage of the land in the watershed is terraced. Some farmers use conservation tillage, contouring and strip cropping; interest in minimum tillage has increased in recent years.

The agricultural watershed is heavily cropped, about 80% being in corn or soybeans (Appendix A). A small percentage of the land along the lower end of the creek and in the steeper areas of the watershed is in permanent grass and woods. There has been a trend away from using the moldboard plow, with substitution of a disk or chisel plow to perform primary tillage. In 1980, only 17% of the row-crop area was moldboard plowed (mostly areas with corn residue on the soil surface). Essentially all the farmers use pesticides and fertilizers to some degree.

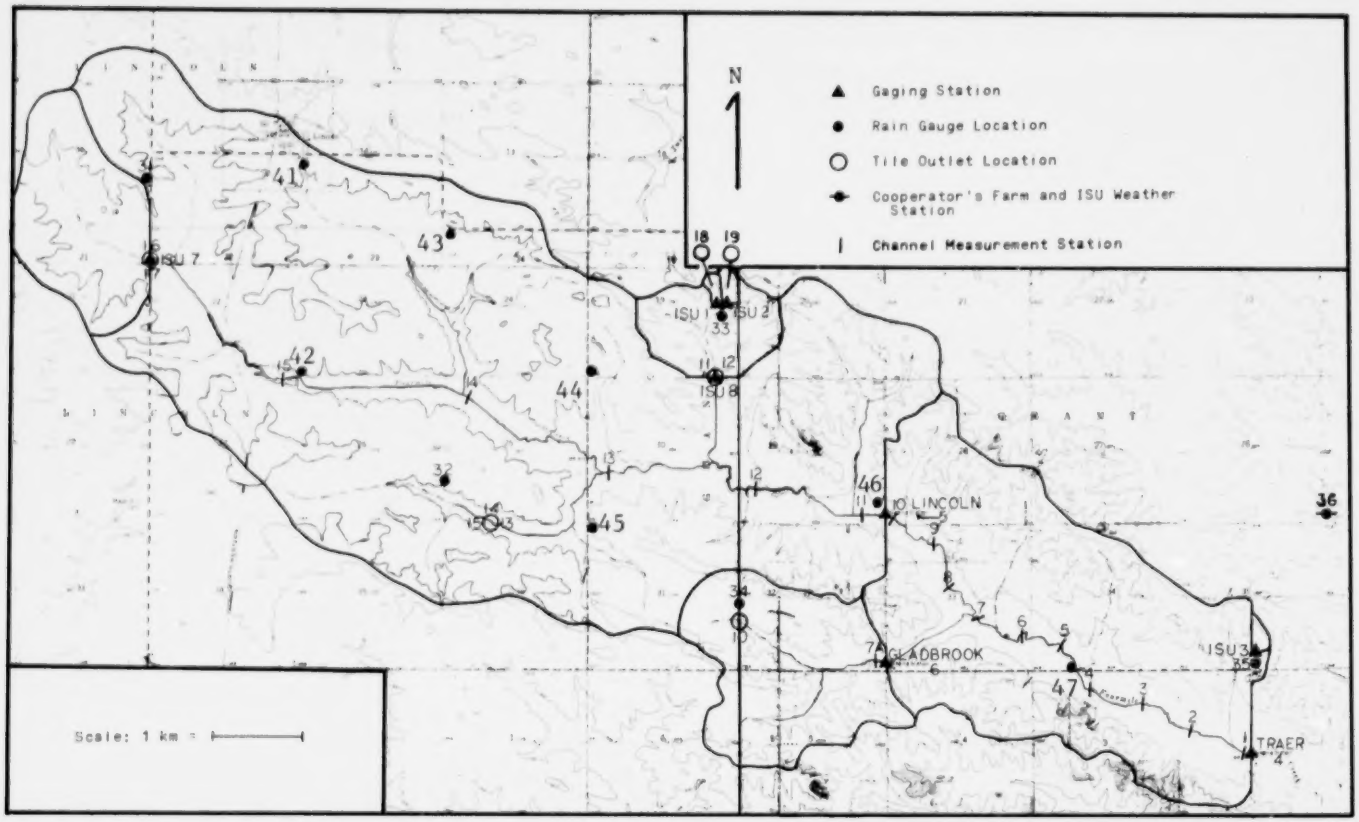

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Figure 2. Four Mile Creek watershed instrumentation.

SECTION 5

WATERSHED INSTRUMENTATION

METEOROLOGICAL INSTRUMENTATION

Meteorological data were collected during the study at various points in or near the watershed (Figure 2), and are presented in Appendix B. Figures illustrating much of the instrumentation are included in the completion report for the first phase of this two part study, and are not included in this report. A weather station was established at the cooperator's farm, and precipitation, maximum and minimum temperatures, humidity, pan evaporation and solar radiation were recorded daily.

Soil temperatures were also monitored at the weather station and site 1 during the winter months. Thermometers were inserted into the ground at various depths and read periodically, timing and depth of frost being established from these data, because of their influence on subsurface drainage.

Recording rain gages were set up at five locations throughout the watershed to record precipitation during the runoff season. During the winter months precipitation was measured by snow gages at site 1 and the weather station. In 1980, seven total-catch rain gages were distributed throughout the watershed to better determine storm rainfall amounts during the growing season.

GAGING INSTRUMENTATION

Creek flow and runoff were monitored at eight sites within the Four Mile Creek basin (Figure 2). The three sites monitoring creek flow (sites 4, 5 and 6) were constructed in 1962, and have been maintained continuously (except during 1975) by the USGS. The stations consist of concrete controls with metal weir plates. Rating curves were established and updated periodically by the USGS.

The five additional stations for monitoring surface runoff were constructed and maintained by ISU personnel. A 1.22 m H-L, stainless steel flume was installed at each of sites 1, 2 and 3 in the first phase of this two part study. A plywood approach box was constructed on the upstream edge of each flume to mix the runoff, and provide a symmetrical approach and a location where a sampler intake could withdraw a well-mixed sample. Two FW-1 stage recorders, one with a 6-h and one with a 24-h clock rotation were installed on each of the flumes. Sites 7 and 8 were located at a box culvert and a road culvert, respectively, and an FW-1 stage recorder was installed at each of these stations. A steel weir plate was also installed at site 8 to improve gaging accuracy.

SAMPLING INSTRUMENTATION

Samples of surface runoff were collected at sites 1, 2 and 3 by PS-69 automatic pump samplers, remodelled to take four-liter samples at 2-min intervals. Racks were built inside chest freezers converted to refrigerators to hold glass sample bottles, and glass tubing was constructed to convey the samples into the refrigerated bottles from the sampler. Stainless steel well points were used as intakes for the PS-69 samplers. The well points were fastened approximately 3 cm above the floor of the plywood approach box. Five ports, at various heights, were installed on one wall of each flume, allowing runoff water to flow into bottles as the water rose in the flumes, providing additional samples of runoff water in the event of failure of the automatic samplers.

Samples of creek flow, surface runoff (sites 4 to 8) and tile flow, were taken by hand or with a hand-held depth-integrating sampler, US DH-48. In addition, a US D-74 depth-integrating sampler was installed, with a winch, on the bridge at site 4, to be used when taking samples during higher stages at that site.

A collection device with automatic cover was also installed at site 2 to take large samples of precipitation.

Appendix H includes schedules of watershed instrumentation, field operations and soil sampling.

SECTION 6

STUDY COMPONENTS - DESIGN AND PROCEDURE

The dominant effort of the Iowa Agriculture Experiment Station was the collection, reduction and processing of field and laboratory data as reported herein. The approach was to instrument several watersheds nested within the Four Mile Creek watershed, to measure inputs and outputs related to transport of sediment, nutrients and pesticides from field to stream. Watersheds ranged in size from 5 to 5055 ha, and represented single cover (row-crop or grass) and mixed cover areas. Inputs and outputs were evaluated by measurement, sampling and analyses of precipitation, runoff, soil moisture, nutrient and pesticide loads and vegetative cover. Data relating to channel geometry, and stream bank and bed soil particle size were collected. Sediment, nutrient and pesticide analyses, dissolved and particulate related, were performed in the Agricultural Engineering chemistry laboratory (ISU).

AGRONOMIC AND CULTURAL PRACTICES

Single Cover Watersheds

The watersheds at sites 1 and 2 were planted to row-crops each year of the study. In 1979, corn was grown at site 1 and soybeans at site 2; in 1980, these crops were alternated at the two sites. The watershed at site 3 was in permanent pasture throughout the study.

Conventional tillage, typical of that used in a large portion of the Midwest was used at sites 1 and 2 in 1979. No erosion control practices, other than grassed waterways, were used. Cornstalks were plowed with a moldboard plow in the spring in preparation for planting of soybeans, and soybean stubble was disked in preparation for corn planting. The corn and soybean crops were planted with 96 cm inter-row spacings. In 1980, chisel plowing of the corn residue in preparation for planting soybeans was performed rather than moldboard plowing. Two cultivations were also completed during early crop growing stages for additional weed control at the soybean site. A timetable of tillage operations at sites 1 and 2 is presented in Appendix C.

Fertilizer Application --

Fertilizer was applied to sites 1 and 2 in the spring of 1979 before plowing or disking. The field to be planted to corn received 168 kg/ha of N, 37 kg/ha of P, and 47 kg/ha of K. The field to be planted to soybeans received 37 kg/ha of P and 47 kg/ha of K. The fertilizer application rates remained constant for both crops both years of the study, but P and K

fertilizer for the 1980 growing season was applied in December 1979, and was not incorporated until spring tillage in April, 1980.

Fertilizer was surface-applied to the pasture at site 3 in spring, 1979 and 1980, at the rate of 78 kg N, 20 kg P and 19 kg K per hectare each year.

The fertilizer applied to sites 1, 2 and 3 was all in solid form, and was custom-applied by a local dealer. The N in the fertilizer was in the form of urea and diammonium phosphate, the P in the form of concentrated superphosphate and diammonium phosphate, and the K in the form of potassium chloride.

Herbicide Application --

Herbicides were broadcast sprayed without incorporation at sites 1 and 2 by project personnel each spring, immediately after planting. Propachlor and cyanazine were applied to the field planted to corn at rates of 2.24 kg/ha. Alachlor and metribuzin were applied to the field planted to soybeans at rates of 2.24 and 0.56 kg/ha, respectively. Table 1 lists the water solubilities and vapor pressures of the herbicides studied. To determine the amount of herbicide applied, the spray nozzles were calibrated, ground speed was recorded, and samples of the spray mixture were taken for herbicide analyses. In addition, sets of doubled 12.5 cm diameter filter paper discs were placed on the soil surface before herbicide application. The discs were passed over by the sprayer, then were quickly sealed in glass flasks for later analysis.

Mixed Cover Watersheds --

Crops grown on the larger watersheds (sites 4 to 8) included corn, soybeans, oats, hay, pasture and grass (government set-aside). Corn and soybeans accounted for a large portion (80%) of the crops grown in the watersheds in 1979 and 1980.

Several tillage methods were used in the watersheds in preparation for planting corn and soybeans. In 1979, 31% of the row-crop area was moldboard plowed; in 1980, the proportion was 17%. Chisel plowing was used on 31% of the row-cropped area in 1979 and 29% in 1980. Disking increased from 37% in 1979 to 53% in 1980 for the row-cropped area. If moldboard or chisel plowing was used, it was more likely to be used on ground with corn residue, whereas disking was more likely to be used on ground with soybean residue. About 1% of the watershed was farmed using a minimum-till planter or no-till.

Tillage preparation for seeding of oats and grass usually consisted of disking. No tillage was required for hay and pasture, since these were generally established during the previous season.

Some soil conservation measures were performed in the watershed. Contouring of rows was done on approximately 10% of the row-crop area in 1979 and 19% of the area in 1980. Strip-cropping on the contour was done on two farms, and there were several systems of terraces present in the watershed.

TABLE 1. NAMES, WATER SOLUBILITIES, AND VAPOR PRESSURES OF HERBICIDES STUDIED*

Herbicide name		Water solubility	Vapor pressure
Trade	Common	mg/L	mm Hg at 25°C
Lasso	alachlor	242 at 25°C	2.2×10^{-5}
Bladex	cyanazine	171 at 20°C	4.0×10^{-9}
Sencor/Lexone	metribuzin	1220 at 20°C	1.0×10^{-5}
Ramrod	propachlor	580 at 20°C	2.3×10^{-4}

*Data from Herbicide Handbook, Weed Science Society of America (1974).

Fertilizer Application --

Ninety-nine percent of the corn raised in the Four Mile Creek watershed received fertilizer (Appendix A), at rates quite adequate for good yields, averaging 180 kg/ha of N, 27 kg/ha of P, and 56 kg/ha of K per year in 1979 and 1980. Fertilizer was used on less of the soybean area (average 27%) at rates averaging 16 kg/ha of N, 24 kg/ha of P, and 53 kg/ha of K per year. Some oats, hay and pasture also received application of commercial fertilizer. Manure produced by livestock operation provided an additional source of nutrients for some farms in the watershed.

The P and K fertilizers applied were commonly in solid form and broadcast spread on the land in the fall, after harvest, or in the spring, before planting. The solid forms most commonly used were: ammonium nitrate, concentrated superphosphate, and potassium chloride. Starter fertilizer was also used by some operators. Nitrogen fertilizer was applied mainly in the form of anhydrous ammonia, in the fall, spring or early summer (side dress application), but some N was also broadcast with the solid P and K fertilizers in the form of ammonium nitrate or urea.

Pesticide Application --

At least 98% of the corn and 99% of the soybeans raised in the watershed received some type of herbicide application, and many of the fields received two or more types of herbicide. Several methods of application - pre-plant incorporated, row-band at planting, pre-emergence and post-emergence treatments - were used in the watershed. Some of the herbicides were custom-applied by dealers, but most were handled by the farm operators themselves.

Insecticides were applied to approximately 74% of the corn in the watershed. Almost all of the insecticides were applied in a band over the row at planting time, but some were occasionally applied aerially.

GROUNDWATER AND CHANNEL SYSTEM

Geologically recent erosion and deposition make up the alluvium in the Four Mile Creek valley. About four to five meters of alluvial silt and clay overlay about five meters of sand in the floodplain at the lower end of the main stream (Kunkle, 1968). The tributaries are well developed in most of the watershed. The valley bottom averages about 400 m in width at the lower end of the watershed, and narrows to a width of about 100 m, 11 km above the gaging station. The channel is incised into the valley bottom; stream banks are nearly vertical and about two meters above the bed on the lower end of the watershed. The stream profile is continuous with no obvious nick points. The channel inclines in a northwesterly direction about 14 km from the lower gaging station; the average slope is about 2 m per km. Portions of the channel have been straightened. Drain tile are installed in most side slope draws and in some of the floodplain fields; no record of the amount and size of the tile is available.

Three geologic units compose the basis of the flow system; namely, the loess and eroded loess deposits, the tills and associated paleosols, and the alluvial sands (Kunkle, 1968). The loess cap and the loess derived alluvium, along with the sands provide the groundwater reservoir which feeds Four Mile Creek. There is some leakage from the loess to the till and thence to the limestone bedrock. Kunkle (1968) reported that flow from the creek to the alluvial sands occurs only during high discharges; the sands and tile provide most of the base flow.

Cross sections of the creek were measured at 16 locations during the study (Figure 2). There are data for 10 of the stations measured in 1967. Core samples of the creek bed were taken for particle size analysis at 10 cross section locations, with a US BMH-53 piston-type bed material hand sampler. Some bed surface samples were obtained by use of a US BMH-60 bed material sampler.

WATERSHED SAMPLING

To compute total loads of sediment, nutrients and herbicides, concentrations of each in runoff were required. The time when each sample of flow was taken and recorded to associate the rate of flow with the concentration, since loads were calculated as a summation of average discharge (for a selected ΔT) multiplied by a given concentration (for the ΔT).

To determine characteristics of soil and sediment in place, soil profile nutrient and herbicide content, and soil moisture, soils were sampled at the surface and through the profile. Soils in the creek bed and banks were sampled to determine the portion of sand sized particles.

Runoff, Base and Tile Flow Sampling

Samples of surface runoff (and base flow for continuously flowing streams) were taken at the eight gaging stations by several different methods.

At sites 1, 2 and 3 samples of surface runoff were taken by project personnel every three to ten minutes during low stages (< 15 cm), by dipping a bottle into the flow as it came through the flume. During runoff events when flows in the flume were > 15 cm in depth, automatic pumping samplers took samples of the runoff every two minutes. Additional single-stage samples were obtained from ports in the flume walls in case of automatic pump sampler malfunction; if no malfunction occurred, the single-stage samples were discarded.

Daily samples of base flow were taken at site 4 by the farm cooperator, by dipping a sample bottle into the flow at the control; at very low flows, sampling was performed every other day. Additional samples were taken during runoff events using a US D-74 depth-integrating sampler suspended from the bridge. The samples of stream flow were taken at intervals of two to four hours, depending on the magnitude of the event.

Samples of base flow at sites 5 and 6 were taken at approximately one week intervals by project personnel, by dipping a bottle into the flow at the control. Additional samples of stream flow were taken by the farm cooperator during runoff events, by dipping a sample bottle into the flow, or by use of a hand-held US DH-48 depth-integrating sampler. Samples were taken at intervals of one to four hours, depending on the magnitude of the event.

Samples of tile flow were taken at 10 tile outlets (five locations), at intervals of one to 14 days. Project personnel took the tile flow samples by dipping a sample bottle into the flow. No measurements of tile flow were made, however the sampler noted whether the flow had increased or decreased since the last sampling date.

Sediment Sampling --

During 1979 and 1980, work continued toward analyzing the volume and particle size distribution of sediment deposited within the field-sized watersheds, and sediment transported with runoff from the small watersheds to downstream areas. Within the field-sized watersheds at sites 1 and 2, samples of sediment deposited above the flumes were collected and volume and size analyses conducted. Samples of sediment transported in suspension in the runoff were collected and sediment concentration, particle size distribution, and volume analyses were made.

Sediment Discs --

Sediment deposition occurred above the flumes at sites 1 and 2 during runoff events. Small plastic discs were placed in a triangular arrangement in the ponding area immediately upslope from the flumes and dikes at sites 1 and 2. In 1980, sediment discs were placed in the same arrangement as for previous years, with additional discs placed further upslope from the flumes to enable collection of data should deposition occur in this upslope area. Soil particles which eroded from the field moved downslope and a portion was deposited as sediment in the ponding areas above the flumes. The total volume of the sediment deposited on each of the plastic discs was collected; particle size analyses and moisture content were then determined. Using these data,

estimates were made of the total volume of sediment deposited above the flumes.

In 1979, severe erosion and sediment movement occurred at sites 1 and 2. Considerable sediment was deposited in the ponding area and upslope from the area where the sediment discs were located. No volume samples were obtained for the areas upslope from the plastic discs for the larger runoff-deposition events. The sediment disc data which were collected for 1979 and 1980 are presented in Appendix E.

Survey of Sediment Deposition Area Above Sites 1 and 2 --

Considerable sediment was deposited above the flumes and dikes at sites 1 and 2 during the 1979 crop season. To better quantify the total volume of sediment deposited, a survey of this area was made during the fall of 1979, following the last runoff event. Additionally, surveys were made during the spring and fall of 1980. Using this information, and data from the original field surveys of 1976, estimates of the total amount of sediment deposited above the flumes were made; the survey data and estimates of total deposition are presented in Appendix E. It is noted that the sediment in the deposition areas at sites 1 and 2 was scraped and hauled from the area during the fall of 1979.

Runoff Sediment Analysis --

During storm events, runoff samples were collected at various sites within the Four Mile Creek watershed (sites 1 to 8); see Appendix E. Descriptions of sampling sites and procedure are discussed previously. Those runoff samples having concentrations greater than 3000 ppm were analyzed for sediment particle size distribution. The Sedigraph 5000® Particle Size Analyzer (Sedigraph) was used for particle size analysis, and continuous curves of "cumulative mass percent" versus "equivalent spherical diameter" were produced. The "percent finer than" values corresponding to particular particle sizes were determined from these curves. Particle size analysis data are presented in Appendix E.

Channel Measurements and Sampling --

The following is a brief description of research and data collection activities conducted during the 1979 to 1980 study period relative to the stream channel system within the Four Mile Creek watershed. The primary objectives of these activities were: to describe the composition of stream bed and bed load material in the Four Mile Creek channel; to analyze and describe the transport of sediment from small field-sized watersheds to the main channel system; and to assess the channel contribution to the sediment load in Four Mile Creek (through measurement of changes in channel cross sections).

Stream bed core samples -- Creek bed core samples of Four Mile Creek were taken during August, 1979 and June, 1980 and analyzed for particle size distribution of the sediment. Three samples were taken across the channel bottom at each of ten locations corresponding to cross sections 2, 4, 6,

8, and 10 to 15, using a US BMH-53 piston type bed material sampler. The three samples taken corresponded to the left, center and right portions of the stream channel, and each sample was divided into three layers (measured from the creek bed surface), corresponding to depths of 0-2.5, 2.5-7.5 and 7.5-20 cm. Particle size distribution analysis was completed for each sample, and data are presented for "percent finer than" for sizes 4000, 2000, 1000, 500, 350, 250, 175, 125, 88 and 62 microns.

Stream bank core samples -- Sediment samples were taken from the banks at the 15 designated cross sections along Four Mile Creek in 1979, and particle size distribution analysis, similar to that for the stream bed core samples, was completed for each sample.

Bed load samples -- Bed load sampling on the channel of Four Mile Creek was conducted during major runoff events in 1979 and 1980, which produced pronounced rises in creek stage, at these sites: the bridge on highway T-55 (between cross sections 12 and 13), the R. Thoms bridge (between cross sections 8 and 9), the Babinet bridge (between cross sections 4 and 5), and the Traer bridge (below cross section 1); see Figure 2.

Samples were collected using a US BMH-60 bed material sampler, operated from the upstream side of the bridge at each location, from the left, center and right portions of the channel during the runoff events of June 12, June 27 and July 3, 1979 and May 29, 1980. Particle size distribution analyses of these bed load samples were performed, and data are presented in Appendix E.

Stream bed scour chains -- During the study period, observations related to scour and fill on the creek bed were made by use of small brass chains fastened to rods embedded below the channel bottom. The chains were placed at three locations in the channel (between cross sections 3 and 4, 6 and 7, and 12 and 13), with three chains spaced equidistance across the channel. The relative positions of the chains were observed periodically as an aid in studying the depths of channel scour due to runoff events.

Cross sections -- Cross sections of the main channel were measured for use in hydraulic calculations, and to provide data to compare channel area changes during the study. As in previous years of the study, the channel cross sections were measured periodically at 15 designated stations on Four Mile Creek and one on Half Mile Creek, by taking distance and elevation readings at the break points along the section. Previously (1977 and 1978), the channel sections were surveyed in the spring following snowmelt runoff. Measurements of the cross sections were conducted in April and July-August, 1979 and in April, June and November, 1980. Comparisons of the cross sectional areas from year to year and during 1979 and 1980 were possible using these data.

Analysis of channel areas was completed for each cross section for the 1979 and 1980 surveys. A common bank elevation was used for each date and section for comparisons of channel areas. Depth of "soft" sediment at the bottom of the stream channel was determined by measuring to the top of such sediment and then pushing the survey rod downward until a strong resistance was encountered. Comparisons were made of the channel areas based on the

survey measurements above the deposited "soft" sediment of the channel bed.

Soil Sampling

Soil sampling was conducted periodically at sites 1, 2 and 3 to measure pesticides, nutrients and moisture present in the soil on specific dates.

Soil sampling for pesticide analysis was conducted each year at sites 1 and 2, before and after pesticide application in the spring. A sampling was made one to several days before pesticide application to determine the background levels of the pesticides present in the soil. Soil sampling continued from the day of application, at intervals of 1 to 3 days, until the first significant rainfall, usually 2 to 3 weeks after application. Sampling then continued at 1 week intervals or after runoff events occurred, until approximately 8 weeks after application when the intervals were lengthened to 2 to 4 weeks. Pesticide sampling usually ended approximately 16 weeks after application.

Background sampling and samplings after the first significant rainfall were conducted with a 1.9 cm split-tube core sampler, and taken to 30 cm in four layers (0-1, 1-7.5, 7.5-15 and 15-30 cm). Sixteen samples were composited from each of three areas, corresponding to soil type: bottom lands, side slopes, upland. Samples taken immediately after application and those taken before the first significant rainfall, were obtained using a volume sampler at eleven locations, with a duplicate sample from any one of the locations. The volume sampler was a 23.3 cm cylinder that was forced up to 10 cm into the soil. A slot on the side of the sampler allowed a plate to be inserted, entrapping the desired amount of surface soil. From the weight of the soil taken, the cross sectional area (423 cm^2) of the cylinder, and the pesticide concentrations, the amount of pesticide per unit area was calculated.

Soil sampling for nutrient and moisture analysis was conducted each year at sites 1, 2 and 3 throughout the growing season. Three times during each season - spring, midsummer and fall - soil core samples were taken down to 150 cm in 9 layers (0-1, 1-7.5, 7.5-15, 15-30, 30-45, 45-60, 60-90, 90-120, and 120-150 cm). The samples were taken at 8 locations at sites 1 and 2, and at 5 locations at site 3 using a 5 or 7.5 cm diameter hand-operated bucket auger. Some of the pesticide soil core samples taken to 30 cm were also analyzed for nutrients in 1979. Soil samples were analyzed for water-extractable NH_4-N, NO_3-N, PO_4-P and Cl; for K_2SO_4-extractable NH_4-N; for acid-fluoride-extractable available P (Bray-1); and for moisture content.

ANALYSIS METHODS

Sediment

Sediment particle size analyses were performed using a set of nested sieves (4.0, 2.0, 1.18 and 0.062 mm), the Visual Accumulation (VA) Tube, and the Sedigraph 5000® Particle Size Analyzer (Sedigraph). Analyses using this equipment provided the particle size distribution information desired for data processing. For all samples obtained, final results are reported as "percent finer than" for a given particle size, based on the total sample obtained.

Sediment and stream material samples were analyzed relative to particle size distribution as follows:

1. Sediment in runoff samples (sites 1 to 8) was analyzed using the Sedigraph, with data presented for particle sizes of 50, 40, 32, 24, 16, 12, 8, 6, 4, 3, 2 and 1 micron.

2. Sediment deposited upslope from the flumes and dikes at sites 1 and 2 was analyzed for particle size using the nested sieves. Samples of the less than 62 micron size were retained for Sedigraph analysis where desired. Data are presented for "percent finer than" the 62 micron size.

3. Stream bed core samples were analyzed using the nested sieves and the VA Tube, with particle size distribution presented for the 4000, 2000, 1000, 500, 350, 250, 175, 125, 88 and 62 micron sizes. Samples of the less than 62 micron size material were retained for Sedigraph analysis where desired.

4. Particle size distribution analyses of stream bed load samples were conducted and presented in the same manner as for stream bed core samples.

Following is a brief description of procedures used in conducting these analyses.

Nested Sieves --

Samples (or representative portions thereof) were sieved through four nested sieves (4.0, 2.0, 1.18 and 0.062 mm size), one upon the other, with the size of sieve openings decreasing with the lower sieves. The sample was placed on the uppermost sieve, and a gentle jet of native runoff water was used to wash the finer particles through the smaller sieves. Native water and particles which passed through the 0.062 mm sieve were retained for further size analysis with the Sedigraph. Material retained on the 4.0, 2.0 and 1.18 mm sieves was backwashed into petri dishes and oven dried. The weight of sediment retained for each particle size class was determined and "percent finer than" amounts determined following particle size analysis of the entire sample. The material retained on the 0.062 mm sieve was backwashed into a petri dish, oven dried and weighed, and the particle size distribution of this sand sized material was analyzed using the VA Tube.

All compositing, splitting and sieving involved in sample analysis was accomplished using runoff water; no dispersing or flocculating agent was added, and mechanical dispersion of the sample was avoided. Hydrogen peroxide (6% solution) was added to sand samples containing significant amounts of organic matter.

Visual Accumulation (VA) Tube Analysis --

The VA Tube is an instrument which allows the rapid and relatively simple determination of the size distribution of sand samples. The VA Tube method employs the stratification system of sedimentation, in which the particles falling from a common source become stratified according to settling velocities. A tracking device enables the operator to follow the accumulation of particles in the sedimentation tube, and at the same time a continuous chart of such accumulation is produced on a recorder chart. The percent of a sample finer than a particular size is read from the continuous curve, and this information is combined with other particle size analysis data to determine the

complete particle size distribution of a sample.

For a complete description of the VA Tube and operating procedures used, see Subcommittee on Sedimentation, Inter-Agency Committee on Water Resources (1958).

Sedigraph 5000® Particle Size Analyzer (Sedigraph) --

The Sedigraph measures the sedimentation rates of particles in suspension and presents the data as a cumulative percent finer distribution, in terms of Stokesian or equivalent spherical diameter (microns). The Sedigraph uses x-ray attenuation to measure sediment concentrations continuously in a small sedimentation cell, as a function of time and depth. To minimize time required for analysis, the position of the cell is continuously changed, so that the effective sedimentation depth observed is inversely related to elapsed time. The size information is presented as a continuous curve on three cycle logarithmic paper of "cumulative mass percent" versus "equivalent spherical diameter." "Percent finer than" information for particular sizes can be read from the curves and combined with other particle size data to obtain the total particle size distribution of a sample.

Analyses of particle size distribution were concerned with determination of aggregate size distribution rather than primary particle size distribution, and laboratory procedures reflect this approach. Samples analyzed were brought to a concentration of 6% (60,000 ppm) by dilution or decantation. Native runoff water, with its natural load of dissolved solids was used as a suspension fluid. A representative sample of approximately 50 ml was retained for Sedigraph analysis. Checks were made periodically to ensure that fine particles were not decanted with the water.

For details on operation of the Sedigraph and analysis of the resulting data, see Micromeritics Corporation (1973), Shahvar (1978) and Kimes (1979).

Pesticides

The soil samples taken from sites 1 and 2, and water and sediment samples in runoff at sites 1, 2 and 4, were analyzed for alachlor, cyanazine, metribuzin and propachlor, by the gas-liquid chromatographic methods of Payne et al. (1974). These methods were modified for these herbicides by using Tracor Hall model 700 electrolytic conductivity detectors in the nitrogen and halogen modes instead of Coulson systems. Recoveries of fortified samples at concentrations of 0.5 to 50.0 ppm (water) and 0.05 to 5.0 ppm (sediment or soil) were in the range of 90.0 to 98.7% (alachlor), 93.0 to 100.0% (cyanazine), 87.6 to 102.6% (metribuzin), and 91.0 to 100.0% (propachlor). Because of the high extraction efficiencies, no correction for extraction efficiencies was made.

Nutrients

All water samples taken (surface runoff, sites 1, 2, 3, 7 and 8; stream flow, sites 4, 5 and 6; tile flow, sites 10 through 19; and precipitation)

were analyzed for NH_4-N, NO_3-N, PO_4-P, Cl, and total dissolved solids. A Technicon Auto Analyzer II system was used for NH_4-N, NO_3-N, and Cl. The alkaline phenol method used for NH_4-N (Technicon Industrial Method No. 98-70W) covered the range from 0 to 1 ppm with a 5 cm flow cell used to maximize sensitivity. The cadmium reduction method used for NO_3-N (Technicon Industrial Method No. 100-70W) covered the range from 0 to 2 ppm. The ferricyanide method used for Cl (Technicon Industrial Method No. 99-70W) covered the range 0 to 10 ppm. PO_4-P was analyzed manually by the single reagent ascorbic acid reduction method (Murphy and Riley, 1962), with a concentration range of 0 to 0.5 ppm (1 cm cells) or 0 to 0.2 ppm (4 cm cells). When these ranges were exceeded, known dilutions were made with demineralized water to reduce concentrations to the measurable range.

Selected water and sediment samples were analyzed for kjeldahl-N and total-P, with conversion to and analysis of NH_4-N and PO_4-P, respectively, using sulfuric acid hydrolysis. Some of the sediment samples were further analyzed for K_2SO_4-extractable NH_4-N and acid-fluoride-extractable available P (Bray-1; ASA, 1965).

Soil samples were analyzed for water-extractable (5 parts demineralized water to 1 part soil) NH_4-N, NO_3-N, PO_4-P and Cl; for K_2SO_4-extractable NH_4-N (5 parts 1 N K_2SO_4 solution to 1 part soil); and for acid-fluoride-extractable P (10 parts acid-fluoride solution to 1 part soil).

CROP INVENTORY, CANOPY DEVELOPMENT AND YIELDS

Crop information was collected from the farmers in the Four Mile Creek watershed in the summer or fall of each year of the study. Project personnel conducted personal interviews with each farmer, obtaining information concerning cropping patterns, fertilizer, herbicide and insecticide applications, tillage operations, conservation practices used and livestock raised. The data collected are presented in Appendix C. Aerial photographs, taken by project personnel early in the summer, were used to identify individual fields in the watershed.

Leaf canopy development of the corn and soybean crops at sites 1 and 2 was recorded by taking photographs of the crops each week throughout the growing season. The photographs were taken from the top of a 3.3 m step ladder, looking down onto the leaves of the crop. Two viewers then viewed the slides over the top of a grid, to determine the percentage of the area covered by leaf canopy.

Six samples of the corn and soybean grain were taken at sites 1 and 2 at harvest time each year. Total yields of grain and residue were then estimated. No attempt was made to determine the yield of grass from the permanent pasture at site 3.

DATA REDUCTION, PROCESSING AND COMPUTATIONS

The general flow of data and analyses performed is shown in Figure 3. A description of the programs used to analyze the data follows.

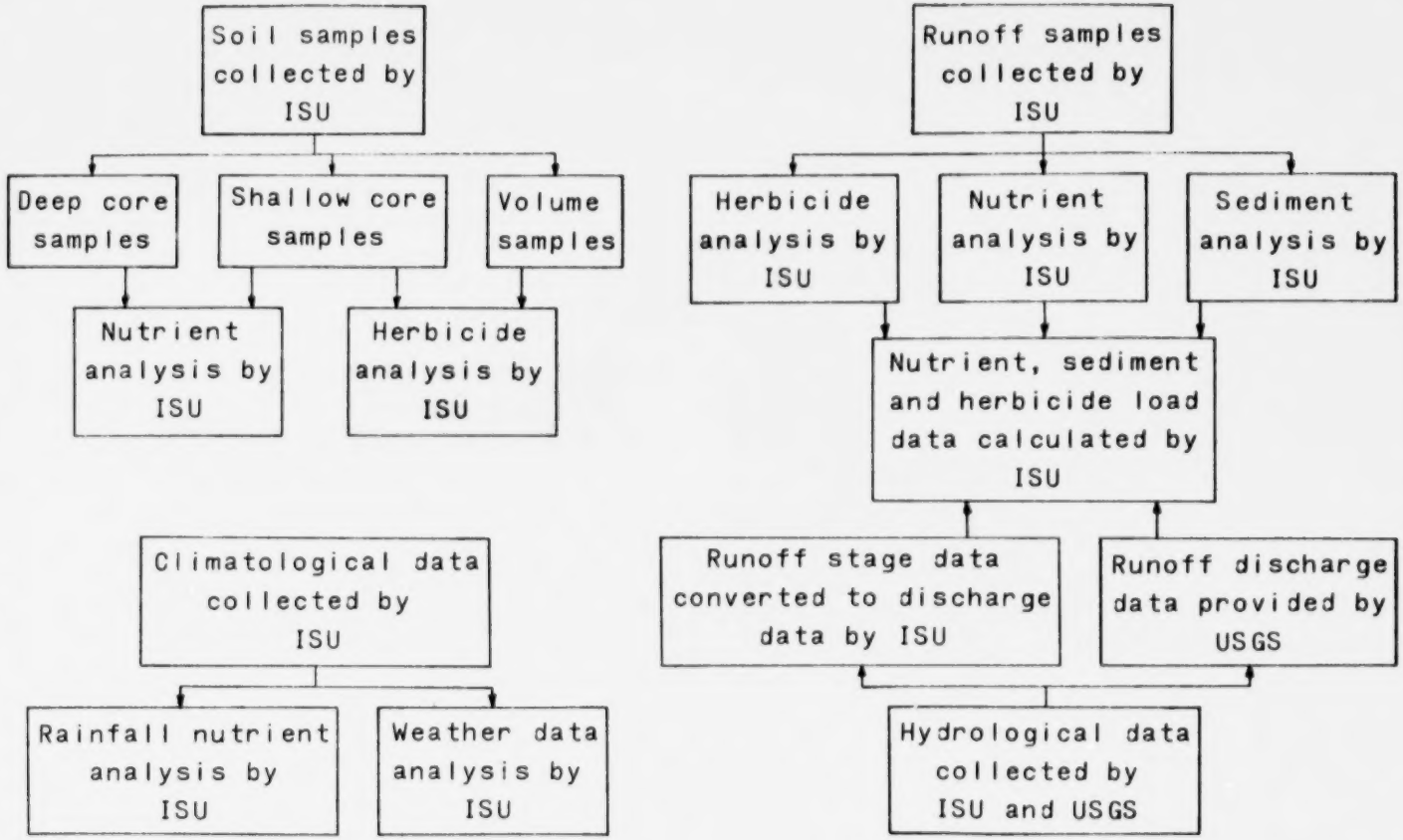


Figure 3. Flow diagram of sample and data handling.

Precipitation

Precipitation records were tabulated from recording rain gage charts for six locations. Precipitation values and times were determined at inflection points on the continuous chart traces (break-point method). The actual rainfall collected in the recording buckets was measured at the end of each storm, and the chart readings were proportioned to this amount using the following equation:

$$\text{Precipitation} = (R - R_i)\left(\frac{R_a}{(R_f - R_i)}\right) \quad [1]$$

where R was the chart reading (mm) at a given time, R_a was the actual total rainfall (mm), R_f was the final chart reading (mm), and R_i was the initial chart reading (mm). The resultant precipitation was given in millimeters.

The precipitation intensity was calculated by dividing the precipitation by the elapsed time for each time increment. No intensities were calculated for snow data, when the recording gages malfunctioned, or when precipitation totalled less than 5.1 mm. Accumulated precipitation was tabulated on a storm, daily and yearly basis.

Runoff

Stage recorders were used to measure runoff at five locations, and USGS records were obtained at three additional locations. Stage height and time data were taken from the runoff records using the break-point method. The discharge and time data were then determined using the appropriate rating curves.

The flow versus time curve was then integrated using the trapezoidal rule to compute the approximate value for the area under the curve; this area was equal to the total volume of runoff.

The trapezoidal rule used each corresponding flow value and time value, and computed the area from the following equation:

$$AV = \tfrac{1}{2}(Q_1 + Q_2)(T_2 - T_1) \quad [2]$$

where T_1 was the time (s) at break-point 1, T_2 was the time (s) at break-point 2, Q_1 was the discharge (m^3/s) at time T_1, Q_2 was the discharge (m^3/s) at time T_2, and AV was the area under the curve between times T_1 and T_2.

This area under the curve was equal to the flow volume which passed the stage recorder between times T_1 and T_2. Each incremental flow volume was then added to the flow volume already accumulated until the event ended.

For 1980, USGS data were not available for several dates when runoff occurred at the Traer (site 4) gaging station location, because of equipment failure. Since the missing flow data were for the period when most of the rainfall-runoff events occurred during 1980 (May 15 - June 16), it was

imperative that runoff hydrograph data be made available for this period, so that sediment, nutrient and herbicide loads could be calculated. Flow data were available for the Lincoln (site 5) gage for this May - June period, with the exception of June 15 - 16, however data were also missing for the Gladbrook (site 6) gage for May and June.

Relationships between hydrographs at sites 4 and 5 were developed from the 1979 data, and site 5 data for 1980 were used to predict hydrographs for site 4 for 1980. The main assumption made was that the volumes of surface and subsurface components of flow (and therefore total volume) per unit area were the same for sites 4 and 5 for each event. These volumes had to be distributed with time, from the above relationships, in order to construct the hydrographs. The following describes the relationships developed and the process followed.

Development of the unit hydrographs for the events basically followed the procedure outlined by Mitchell (1948) and Gray (1962). The total hydrograph was separated into base flow (including inter-flow and base flow) and direct surface runoff. Base flow was determined by reviewing the recession curves of available runoff hydrographs for sites 4 and 5 and preparing a composite graph for those recession segments that appeared to be predominantly base flow. According to Gray (1962), the recession limb is independent of the time variations in rainfall or infiltration and is dependent on the physical features of the watershed channel. Therefore, analysis of the shape of the recession limb where base flow becomes dominant is possible by analysis of the composite graph from several observed storms.

The time of the end of direct surface runoff and return to total base flow was based on the point where the recession curve of the observed hydrograph joined the composite recession curve. The beginning time of direct surface runoff for a particular event was determined by analyzing the recorded runoff hydrograph and determining the point at which the hydrograph shape deviated from the previous base flow recession curve. Base flow separation was then determined by connecting the time of start of direct surface runoff to the time of end of runoff by a straight line on a plot of log q vs. time. Other connecting line techniques are available (Viessman et al., 1977), but since no method appeared to be superior, this method was chosen for simplicity.

In analyzing the runoff hydrographs, three general hydrograph types were found to adequately represent all 1979 runoff events for sites 4 and 5. These hydrograph types consisted of a shorter duration (approximately 18 h), single peaked storm; a double peaked, shorter duration storm (approximately 28 h); and a single, broad peaked storm of longer duration (approximately 40 h). Analysis of the observed hydrographs and separation of the base flow as described above (with some necessary adjustments in end time of direct runoff) allowed all of the hydrographs to be grouped into one of the three types.

Unit hydrograph development involved converting the observed hydrographs into direct surface runoff hydrographs and standardizing these into hydrographs based on one inch of surface runoff from the entire drainage basin. These unit hydrographs were then converted to distribution graphs by

standardizing the unit graph ordinates to percentages of total storm runoff, which allowed removal of the effect of drainage area, so that the developed distribution graphs from various sized drainage areas could be more easily compared.

Using the distribution graphs developed for each of the observed storms and grouping them into the three types, "average" distribution graphs were determined for each type of event. In determining these average graphs, the best fit agreement of individual storm distribution graphs was accomplished considering the following, in the order listed:

i. the maximum peak runoff ordinate for each storm graph was matched as nearly as possible,

ii. the ascending limbs of each graph were matched to one another,

iii. the descending hydrograph limbs were compared to one another.

The average graph ordinates were then obtained for each 15 minute time interval by averaging the corresponding values from each distribution graph. The average graphs developed therefore represented the direct surface runoff hydrographs expected from a given amount of excess precipitation (runoff) received across the basin for a given type of storm (short duration with high intensity at the start, short duration with high intensity at the end, or long duration with somewhat constant intensity). They could therefore be used to obtain surface runoff values for time periods when precipitation records were available but for which runoff records were incomplete or nonexistent.

For the May 15 - June 16 and August 12 - 17 periods in 1980, runoff hydrograph data were unavailable for site 4 (Traer station), but available for site 5 (Lincoln station) located upstream. To enable calculation of loads from the watershed (site 4), runoff hydrographs were predicted for these events. Data and factors considered in these predictions included: "average" unit hydrographs developed from observed runoff data for sites 4 and 5 for 1979 events, unit hydrographs developed from observed runoff data at site 5 for the 1980 events, runoff amounts observed for the 1980 events at site 5, USGS mean daily discharge values for site 5 for the 1980 events, and precipitation patterns and amounts for the storms of interest.

The depth of runoff at site 4 for each event predicted in 1980 was determined using USGS mean daily flows at site 5, drainage areas at sites 4 and 5, and observed runoff depths at site 5. Base flow runoff at site 4 was calculated for specific times by adjusting the base flow values at site 5 relative to the drainage areas at sites 4 and 5, and by adjusting the time lag of flow from site 5 to site 4.

The observed runoff hydrographs at site 5 were analyzed and unit hydrographs were developed for the 1980 runoff events of interest. Based on the shapes of these individual hydrographs as compared to the average unit hydrographs from 1979 events and the precipitation patterns of these storms, each of the events was classified into one of the three average graphs developed from the 1979 data. Prediction of runoff hydrographs for site 4 was made using this average graph, depth of runoff, and base flow runoff values.

To determine the time runoff began at site 5, hydrographs for 1979 events

at sites 4 and 5 were analyzed and the average delay times for start of runoff at site 4 versus site 5 were determined for each of the three types of storm. These average lag times were then used as the basis for lagging the average graphs for site 4 relative to the runoff at site 5 for the 1980 events. Time adjustments of the hydrographs were made, as necessary, by analyzing nutrient and sediment concentration data for specific samples collected during the runoff events, and by comparing the predicted hydrograph at site 4 to the observed hydrograph at site 5.

Using the average graphs, the lag time corresponding to the particular type of runoff event, the predicted runoff depth, and the observed runoff data at site 5, the site 4 hydrographs for the 1980 runoff events of interest were developed. For two particular events, August 6 and August 11, observed runoff data were available for sites 4 and 5. Runoff hydrographs were developed for site 4 using the above procedure and these hydrographs were compared with the observed hydrographs. For both cases, the data were quite comparable, and it was concluded that the prediction procedure was indeed valid.

Loads

Masses of sediment, nutrients and herbicides in runoff were computed using sample concentrations and times with the flow data. For computational purposes, the first sample concentration of an event was applied from the start of the event to the midpoint between the first and second sample. The final sample concentration was applied from the midpoint between the penultimate and last samples to the end of the runoff event. The remaining sample concentrations were applied from midpoint to midpoint of the times between samples.

The measured concentrations used in calculating loads of nutrients and herbicides in solution were based on water alone. Sediment concentrations were based on the total mass of sediment and water. The total flow measured included suspended sediment; therefore, the volume of flow occupied by sediment was corrected for, with the density of the sediment particles taken as 2.65 g/cm^3. The loads per unit area (kg/ha) were calculated as follows for n samples, for the nutrients and herbicides:

$$\text{Load/area} = \sum_{i=1}^{n} \left[\frac{Cn_i Q_i T_i}{A} \frac{2.65\left(1 - \frac{Cs_i}{10^6}\right)}{(2.65 \times 10^6 - 1.65\, Cs_i)} (60{,}000)\right] \quad [3]$$

and for the sediment:

$$\text{Load/area} = \sum_{i=1}^{n} \left[\frac{Cs_i Q_i T_i}{A} \frac{2.65}{(2.65 \times 10^6 - 1.65\, Cs_i)} (60{,}000)\right] \quad [4]$$

where T_i was the i^{th} time increment (min) for which the sample applied, and for this time increment, Cn_i was the concentration (ppm) of the given nutrient or herbicide, Cs_i was the sediment concentration (ppm), Q_i was the average flow rate (m^3/s), A was the watershed area (ha), and the 60,000 was a

conversion factor to obtain the correct units of kg/ha. For chemical loads associated with sediment, it should be noted that the incremental loads were obtained by multiplying sediment loads by the chemical concentrations in sediment.

Loads at sites 1, 2, 3, 7 and 8 were calculated using the runoff data taken from stage recorders. At these sites the flow was not continuous, therefore only storm loads were calculated.

Loads at sites 4, 5 and 6 were calculated using the flow data supplied by the USGS. Daily loads at these sites during constant or nearly constant flow were calculated using the average daily flow data. Storm loads were calculated from flow data with 15-min time increments (sites 4 and 5) or 5-min time increments (site 6). Total loads for sites 4, 5 and 6 were the sum of the storm loads and the daily loads.

Soil Samples

Volume (surface samples, 0 to about 5 cm; deep enough to include all of the surface application of herbicides) and core samples were taken to determine the nutrient and herbicide concentrations in the soil. Soil core samples were taken down to 30 cm for shallow samples, and to 150 cm for deep samples. The total mass of each nutrient and herbicide was also determined on an areal basis.

Total masses of nutrients in the deep cores were determined by using the bulk density of each soil zone of the core sample. The equation used to calculate the total mass per unit area was:

$$\text{mass/area} = \sum_{i=1}^{n} [(0.1)(L_i)(\text{conc}_i)(BD_i)] \qquad [5]$$

where n was the number of soil depth zones in the core sample profile, L_i was the length (cm) of the i^{th} zone, conc_i was the nutrient concentration (ppm on a dry weight of soil basis) in the zone, BD_i was the bulk density (g/cm^3) of the zone, and 0.1 was a conversion factor to obtain the correct units of kg/ha.

The bulk densities (Tama-Colo soil) used for the various soil depth zones were:

Zone, cm	Length, cm	BD, g/cm^3
0-1	1.0	1.00 (1.30 for site 3)
1-7.5	6.5	1.30
7.5-15	7.5	1.27
15-30	15.0	1.23
30-45	15.0	1.24
45-60	15.0	1.26
60-90	30.0	1.30
90-120	30.0	1.34
120-150	30.0	1.37

Volume samples were taken before the herbicide moved down through the soil profile and therefore no depth zones were used. The total mass of herbicides in the soil was determined using the mass and cross sectional area of the sample. The herbicide concentrations (ppm) on a dry weight of soil basis were calculated from:

$$\text{conc} = \left(\frac{HC}{20}\right)\left(1+\frac{MC}{100}\right) \qquad [6]$$

where HC/20 was the herbicide concentration (μg per 20 g wet sample), and MC was the moisture content (percent on a dry weight of soil basis). The herbicide mass per unit area was calculated using:

$$\text{mass/area} = \left(\frac{MW}{A}\right)\left(\frac{HC}{20}\right)(0.1) \qquad [7]$$

where MW was the mass (g) of the wet soil sample, HC/20 was the herbicide concentration (μg per 20 g wet sample), A was the sample area (423 cm^2), and 0.1 was a conversion factor to obtain the correct units of kg/ha. For each date the mean and standard deviation were also calculated for the herbicide mass per unit area.

Shallow core samples were taken to determine movement of the herbicides and nutrient availability within the soil profile. The mass per unit area for chemicals in the shallow soil profile was calculated from:

$$\text{mass/area} = \sum_{i=1}^{n} \left[\frac{(HC_i)(MW_i)(0.1)}{(A)(N)\left(1+\frac{MC_i}{100}\right)}\right] \qquad [8]$$

where n was the number of soil zones in the core sample profile, HC_i was the herbicide (or nutrient) concentration (ppm) in the i^{th} zone, MW_i was the mass (g) of the wet soil sample from the i^{th} zone, MC_i was the moisture content (%) of the i^{th} zone, A was the cross sectional area of the sample (2.85 cm^2), N was the number of samples taken in each soil type (N = 16), and 0.1 was a conversion factor to obtain the correct units of kg/ha. It should be noted that the term $(MW_i)/(1+(MC_i/100))$ gives the mass of the dry soil sample from the i^{th} zone. For the layers 7.5 - 15 cm and 15 - 30 cm, no moisture contents were recorded, and for these two layers, dry soil sample masses of 444.6 g and 889.2 g, respectively, were assumed. For each date the mean and standard deviation of the three soil types were also calculated for the herbicide mass per unit area.

Runoff Samples

In some cases pesticide data were not available because of insufficient sample size, lost sample, or analytical problems. When the concentration was available for the water phase of a sample, but not for the sediment phase, the average ratio of the concentration in sediment to that in water for preceding and succeeding samples was used to estimate the concentration in the sediment phase (and vice versa for estimating concentrations in water). When the concentrations for both the water and sediment phases were unavailable, the concentrations were estimated by interpolation.

SECTION 7

RESULTS AND DISCUSSION

WEATHER

Four Mile Creek Basin

Precipitation in the watershed during the study period varied significantly from the average precipitation of about 823 mm for the area. In 1979, the watershed average precipitation was 186 mm above average and in 1980, 79 mm below average. Not only was the rainfall amount in 1979 above average, rainfall intensities at individual rain gages within the watersheds registered four particularly severe events in June and July with return intervals from five to 100 years for different durations. This, coupled with a soil profile well filled with moisture (55 cm of water in the top 150 cm at sites 1 and 2 in the fall of 1978), resulted in large amounts of runoff. About 45% of the stream flow in the total five year study (1976 to 1980) occurred in 1979.

Although rainfall was below average in 1980, there were several runoff events in that year. In late 1979, the soil profile was wetter than in the fall of 1978, with 66 cm of water in the top 150 cm of the soil profile at sites 1 and 2. This, coupled with the significant rainfall events which occurred during the growing season, resulted in runoff from the watersheds.

Because of the variation in amounts of precipitation observed in the 1976 to 1978 period of the study and again in 1979, seven additional total-catch rain gages were distributed throughout the watershed to complement the six recording rain gages, for the 1980 growing season. In 1979, total precipitation measured by the six gages ranged from 878 to 1072 mm; in 1980, the range was 618 to 815 mm. Variation by storm was even greater, as evidenced by the total catch of the 13 gages from the storm of 8/6/80, which ranged from 32 mm at the upper end of the watershed to 135 mm at the lower end. For that storm, runoff from sites 1 and 2 in the middle of the watershed (58 mm of precipitation) was 19% of the total rainfall-runoff for the year; for site 3, the pasture watershed at the lower end of the watershed, this was the only storm in 1980 that caused runoff.

Regional Data

Precipitation data collected at five weather bureau stations in the vicinity of Four Mile Creek watershed (Table 2) were very nearly within the ranges discussed previously for the watershed. In 1979, all stations were above the long term average for the area (about 823 mm), and in 1980 all were

TABLE 2. TOTAL PRECIPITATION AT WEATHER STATIONS NEAR FOUR MILE CREEK WATERSHED

Location	Precipitation mm	
	1979	1980
Eldora	940	613
Grundy Center	892	699
Marshalltown	831	613
Toledo	883	630
Traer	1109	--*

*Data are not currently available.

TABLE 3. FIRST DAY SOIL TEMPERATURE ABOVE FREEZING (ESTHERVILLE STATION)

Depth cm	Date	
	1979	1980
20.3	April 16	April 16
50.8	April 18	April 17
101.6	April 25	April 25

below. These differences were reflected in stream flow; for example, flow in the Iowa River at Marshalltown was 318 mm in 1979, but only 145 mm in 1980.

Snowmelt runoff, which occurred in both 1979 and 1980, is affected by the depth of snow pack, frost conditions in the soil, and the spring warming rate. For both years of the study, snowmelt was essentially complete for the area by the end of March, yet Table 3 shows that soil temperatures were not above freezing at the 20.3 cm depth until April 16 or at the 101.6 cm depth until April 25. Tile flow begins (or increases) about the time snowmelt becomes significant, indicating that frost in the soil does not completely prevent water percolation throughout the area (see below). Table 4 indicates that peak snowmelt discharges on the smaller creek watersheds usually occur on the same day, while peak flow from the larger Iowa River watershed is usually a day or two later.

Data on consecutive number of days without freezing temperatures, important relative to crop growth, are listed in Table 5 for four weather stations near the study watershed for 1979 and 1980. At three of the locations in 1980 the growing season was shorter that the usual freeze-free period of between 150 and 155 days.

AGRICULTURAL MANAGEMENT IN THE STUDY AREA

Crop Inventory

The inventory data for Four Mile Creek watershed, presented in Appendix A, showed that there are five major crops grown in the area: corn, soybeans, oats, hay and pasture. Land planted to row-crops, corn and soybeans, accounted for 80% of the watershed area for 1979 and 1980, an increase of about 3% from the 1976 to 1978 study period, and an increase of 25% from 1970. Inventory data for each subwatershed showed that the flatter, more farmable land in the upper reaches of the watershed had a higher percentage of row-crops (88% for site 7), and less oats, hay and pasture (9%) than the steeper, less farmable land in the lower area of the watershed (64% row-crop, 23% oats, hay and pasture; site 4 minus site 5).

The percentage of corn fertilized increased from 88% in 1970 to 99% in 1980; for soybeans the proportions were 4 and 28%, respectively. Application of N on the whole watershed increased a factor of 2.3 times in those ten years, as a result of increased percentage of corn fertilized, increased area planted to corn (39 to 56%), and increased application rate (123 to 178 kg/ha). Although application rates of P on corn and soybeans (and K on soybeans) decreased, the area fertilized increased substantially, so application of P to the whole watershed increased 1.5 times (1.8 times for K). It is believed that increasing P soil test levels with long-term P application (Voss, 1980) are responsible for farmers decreasing their application rates.

Herbicide use on corn and soybeans increased from 1970 (70 and 75%, respectively), to the point in 1980 when over 99% of the row-crop area received herbicide treatment. Five herbicides, alachlor, atrazine, butylate, cyanazine and 2,4-D, represented at least 90% by weight of herbicides used on corn in

TABLE 4. DATE OF PEAK SNOWMELT DISCHARGE

Station	Date	
	1979	1980
Richland Creek (Tama)	March 18	March 15
Timber Creek (Marshalltown)	March 19	March 15*
Iowa River (Marshalltown)	March 19	March 17
Four Mile Creek	March 18	March 15

*Peak 5% higher than one of March 15 occurred on March 10.

TABLE 5. CONSECUTIVE DAYS WITHOUT FREEZING TEMPERATURE

Location	1979	1980
Eldora	157	155
Grundy Center	146	140
Marshalltown	157	140
Waterloo	159	140

the Four Mile Creek watershed and also in Iowa (1979 survey of pesticide use; Becker and Stockdale, 1980). For soybeans, the five herbicides, alachlor, bentazon, chloramben, metribuzin and trifluralin, represented at least 90% by weight of herbicides used in Four Mile Creek watershed, and 84% for the State of Iowa. Insecticide use increased from 54% of the corn area treated in 1970, to 70% in 1980; soybeans received no insecticide. Five insecticides, carbofuran, chlorpyrifos, fonofos, phorate and terbufos, represented over 95% by weight of the insecticide used in the Four Mile Creek watershed and Iowa as a whole. Every year essentially the same area of the watershed was in row-crop, with very little continuous soybeans. Therefore, in 1979 and 1980 at most 28 and 26% of the watershed could have been in continuous corn needing rootworm protection, yet 39% of the watershed was treated with rootworm insecticide each year, indicating that some land in corn following soybeans was needlessly treated.

With respect to tillage, the biggest change from 1976 to 1980 came with substitution of use of a disk or chisel for use of the moldboard plow for primary tillage. In 1976, 51, 38 and 11% of the cropland (corn, soybeans, oats, hay and pasture) were moldboard plowed, disked and chisel plowed, respectively. In 1980, the corresponding figures were 16, 54 and 28% (there was 1% buffalo-till and less than 1% no-till). In 1976, 0.5% of the cropland was terraced; in 1980, 3% was terraced. Contouring increased from 6% of the row-cropped land in 1976 to 19% in 1980.

Crop Leaf Canopy Development

In 1979, corn was planted on May 7 and soybeans on May 19; because of an extreme runoff event on June 12, soybeans were replanted on June 16. In 1980, corn was planted on May 4 and soybeans on May 21. For corn, which emerged about ten days after planting, the crop canopy covered only about 25% of the soil surface by the middle of June, but this value increased to about 75% by the first week of July. Maximum canopy developed about 10 weeks after emergence. For soybeans, canopy developed slower, reaching a maximum in late August or in September. In the middle of June, there was less than a 25% canopy and, unlike corn, soybeans did not exhibit a spurt of growth in late June. Therefore, in the first week of July, soybean canopy ranged from 26 to 43% less than that of corn (for 1976 to 1978 and 1980, but excluding 1979 when soybeans were replanted). Crop leaf canopy data are presented in Appendix C.

Crop Residue Coverage

Crop residue measurements were made in 1980 because corn residue was chisel plowed rather than moldboard plowed; data are presented in Appendix C. The same photographic method used to measure crop canopy was used to measure residue.

In March, 1980, before tillage, corn residue coverage (from the previous year's crop) at site 1 (to be planted to soybeans) was 89%. After chisel plowing, disking and planting to soybeans, corn residue coverage was 33%, and by the end of July, residue coverage decreased to 3%. In October, 1980, residue coverage on the corn watershed (site 2) was 82% following harvest,

99% after stalk chopping, and 52% subsequent to chisel plowing.

Before tillage in March, 1980, soybean residue coverage at site 2 (to be planted to corn) was 68%. After disking, roller-harrowing and planting to corn, residue coverage was only 8%. This large decrease without plowing indicates the fragile nature of soybean residue. By the end of June, residue coverage was zero. After soybean harvest in the fall of 1980, 99% of the soil surface at site 1 was covered with residue.

Crop Yields

Crop yields in both 1979 and 1980 at sites 1 and 2 were quite good, despite the severe rainfall-runoff-erosion events in 1979 which necessitated replanting of soybeans in mid-June. The yields presented in metric in Appendix C represent an average of 153 bu/ac of corn (15.5% moisture content), and 46 bu/ac of soybeans (12% moisture content). The yields were good because there was little or no moisture stress in either year, and were fairly typical of yields obtained on a large portion of the Four Mile Creek watershed, and somewhat higher than average for the State as a whole.

HYDROLOGY

Runoff records for 1979 and 1980 are presented in Appendix D for the three small single cover watersheds (corn, soybeans and pasture, sites 1, 2 and 3, respectively in 1979; soybeans and corn for sites 1 and 2, respectively, in 1980). Data for surface runoff from the two smaller intra-basin sites (7 and 8), and for the stream stations (sites 4, 5 and 6) gaged by the USGS are also presented.

Snowmelt was significant in 1979 and 1980 (Table 6), being slightly over half the total surface runoff from sites 1 and 2, and well over half from the pasture watershed, site 3. It is interesting to note that for the four years when snowmelt occurred, including 1976 and 1978, site 1 (to the west of site 2) averaged 1.5 times (standard deviation of 0.1) the snowmelt runoff of site 2, suggesting that the lay of the land and its position relative to prevailing winds and surrounding topography were more important in determining snowmelt runoff than the type of residue coverage (no fall tillage was performed at either site).

In 1979, there were 13 rainfall-runoff events of varying magnitudes (Table 7). Site 1, which had been in soybeans in 1978, was disked on May 4, 1979; site 2, in corn in 1978, was partially moldboard plowed on April 18, 1979 and finished on April 23. In 1980, there were eight rainfall-runoff events (Table 7). Site 1 was chisel plowed on April 17, 1980; site 2 was disked on April 30. The effect of the severity of primary tillage and of recent soil disturbance by cultivation on runoff was significant for lesser events. For all but the extreme events of 6/12/79, 6/27/79, 7/3/79 and 7/13/79, the watershed that had been in corn the previous year and had been spring plowed had the least runoff (or in some cases no runoff when there was runoff from the other row-cropped site). In addition, the plowed watershed (in soybeans) was cultivated once in June and once in July each year, but the

TABLE 6. ANNUAL RUNOFF AND SEDIMENT YIELD DATA

	Site	1979 Runoff mm	1979 Sediment kg/ha	1980 Runoff mm	1980 Sediment kg/ha
Snowmelt	1	115.98	47	73.24	235
Rain-runoff		135.53	51322	15.12	1937
Total		251.51	51369	88.36	2172
Snowmelt	2	72.59	27	54.11	1130
Rain-runoff		126.69	75245	65.53	9931
Total		199.28	75272	119.60	11061
Snowmelt	3	39.55	25	40.81	12
Rain-runoff		26.51	17	4.47	1
Total		66.06	42	45.29	14
Snowmelt	8	49.24	88	42.83	850
Rain-runoff		88.12	18826	31.18	5684
Total		137.36	18914	74.01	6534
Snowmelt	7	74.64	89	47.28	190
Rain-runoff		36.75	1136	45.13	5386
Total		111.39	1225	92.41	5576
Snowmelt	6*	60.83	217	41.56†	398†
Rain-runoff		288.49	14903	101.56	2556
Total		349.32	15120	143.12	2954
Snowmelt	5*	168.53	1446	50.58†	1036†
Rain-runoff		254.15	5710	128.57	2682
Total		422.68	7156	179.15	3718
Snowmelt	4*	186.35	1995	52.30	1102
Rain-runoff		258.26	5617	130.08	2658
Total		444.61	7612	182.38	3760

*Both snowmelt and rainfall-runoff flows contain some subsurface flow for creek sites 4, 5 and 6.

†Data for this site are for January through September only for 1980.

TABLE 7. STORM RUNOFF AND SEDIMENT YIELD DATA

Date			Site 1	Site 2	Site 3	Site 8	Site 7	Site 6*	Site 5*	Site 4*
4/20/79	Runoff	mm	1.44	0.01	1.88	0.89	6.16	14.74	12.08	16.46
	Sediment	kg/ha	85	<1	<1	12	11	188	231	347
5/2/79	Runoff	mm	0.00	0.00	0.56	0.00	0.00	5.11	4.17	5.16
	Sediment	kg/ha	0	0	<1	0	0	24	10	18
6/4/79	Runoff	mm	1.17	0.00	0.00	0.07	0.00	4.24	3.14	1.50
	Sediment	kg/ha	101	0	0	<1	0	347	39	21
6/9/79	Runoff	mm	0.04	0.00	0.00	0.01	0.00	3.51	2.05	2.20
	Sediment	kg/ha	7	0	0	<1	0	40	7	4
6/12/79	Runoff	mm	36.21	35.79	0.06	21.68	5.39	21.02	18.25	17.17
	Sediment	kg/ha	23880	22841	<1	6733	277	7413	1386	1523
6/19/79	Runoff	mm	0.49	0.00	0.00	1.03	0.09	5.60	7.94	7.52
	Sediment	kg/ha	54	0	0	98	6	117	106	23
6/27/79	Runoff	mm	12.86	12.71	0.14	6.39	4.00	7.55	8.87	8.80
	Sediment	kg/ha	3359	5959	<1	1859	108	404	574	735
7/3/79	Runoff	mm	34.33	40.29	13.60	29.17	7.61	23.98	24.38	22.00
	Sediment	kg/ha	13851	32202	12	6137	491	4940	1958	1506
7/13/79	Runoff	mm	34.78	34.26	9.32	22.14	3.84	8.71	20.85	19.05
	Sediment	kg/ha	8813	13689	3	3607	230	423	862	971
8/19/79	Runoff	mm	4.06	0.77	0.00	1.84	0.45	3.56	3.48	3.78
	Sediment	kg/ha	301	28	0	57	5	50	35	49
8/21/79	Runoff	mm	8.58	1.78	0.58	3.18	1.08	8.51	7.68	8.36
	Sediment	kg/ha	833	119	2	87	6	309	147	146
10/22/79	Runoff	mm	1.57	1.08	0.00	1.71	8.12	3.35	7.14	6.71
	Sediment	kg/ha	38	409†	0	236	2	17	116	99
11/21/79	Runoff	mm	0.00	<0.01	0.00	0.01	0.00	1.07	1.57	1.53
	Sediment	kg/ha	0	<1	0	<1	0	<1	2	2

*Flow equals surface runoff plus some subsurface flow.

TABLE 7 (continued).

Date			Site 1	Site 2	Site 3	Site 8	Site 7	Site 6*	Site 5*	Site 4*
4/3/80	Runoff	mm	0.00	0.13†	0.00	0.42†	0.00	0.00	0.00	0.00
	Sediment	kg/ha	0	12	0	37	0	0	0	0
5/29/80	Runoff	mm	3.19	16.48	0.00	8.87	23.52	13.13	17.80	19.19
	Sediment	kg/ha	436	4199	0	3482	3797	927	1263	1466
6/2/80	Runoff	mm	9.16	20.56	0.00	13.42	16.92	11.06	14.91	15.23
	Sediment	kg/ha	1328	3756	0	1620	1307	1053	704	601
6/7/80	Runoff	mm	1.08	2.69	0.00	1.50	2.54†	2.20	0.08	3.05
	Sediment	kg/ha	73	441	0	136	153	16	88	40
6/13/80	Runoff	mm	0.43	8.46	0.00	2.25	1.81†	3.62	4.77	4.61
	Sediment	kg/ha	27	1332	0	224	109	57	208	145
8/6/80	Runoff	mm	0.52	15.11	4.47	1.53	0.02†	4.99	1.42	7.74
	Sediment	kg/ha	47	105	1	25	1	45	49	250
8/11/80	Runoff	mm	0.38	1.45	0.00	2.28	0.10†	2.06	1.25	1.48
	Sediment	kg/ha	18	26	0	80	6	33	39	37
8/16/80	Runoff	mm	0.22†	0.45†	0.00	0.87†	0.22†	3.26	1.37	1.30
	Sediment	kg/ha	5	41	0	77	13	2	9	9

†Flow was not sampled; sediment yield is calculated from annual average yield and amount of flow measured.

corn watershed was not cultivated. One example of the effect of recent cultivation is evident in the data for the storms of 6/7/80 and 6/13/80. On 6/7/80, runoff from site 1 (plowed watershed in soybeans) was 40% of that from site 2; after cultivation of site 1 on 6/11/80, a storm on 6/13/80 produced runoff that was only 5% of that from site 2.

For the four extreme events in June and July, 1979, runoff volumes from sites 1 and 2 were nearly identical, seemingly independent of previous or recent tillage, crop or crop canopy, or watershed topography. For these events, runoff ranged from 30 to 59% of precipitation. In 1980, runoff from the chisel plowed watershed came the closest to that from the disked watershed (on a percentage basis) for the largest runoff event (6/2/80), but was still less than half that from the disked watershed. For the large events, runoff from the two row-cropped watersheds was greater than surface runoff in stream flow, although this trend might have been the result of topography or variability in rainfall across the watershed, rather than increased infiltration during overland flow. Infiltration storage in the stream banks might also have been a factor.

The portion of stream flow during storm events that was subsurface flow was determined by an interpolation technique between the time of beginning of runoff and the time runoff was calculated to have ended (see Section 6). Because there was such a large difference between NO_3-N, Cl and TDS concentrations in stream flow which was all subsurface drainage (very similar to concentrations in tile drainage water) and in surface runoff, knowledge of the concentrations in the total stream flow at any time could be used to estimate the portion of stream flow attributable to subsurface drainage and (or) surface runoff at that time. For example: assume that NO_3-N concentrations in stream flow, before and after surface runoff, averaged 12 ppm (usually there was not a large change in concentration after a storm); that NO_3-N concentrations in surface runoff averaged 2 ppm (could be estimated from values for monitored surface runoff, or at peak stream flow when the proportion of surface runoff would be greatest); and that the total stream flow concentration at the time of interest was 8 ppm. Then the equation below could be used to calculate the portion of stream flow attributable to surface runoff:

Conc. (total stream flow) =

Conc. (surface runoff) x Portion of flow (surface runoff) +
Conc. (subsurface drainage) x Portion of flow (subsurface drainage)

Using the example values given above, and realizing that the portion of subsurface flow equals one minus the portion of surface flow, gives:

$$8 = 2x + 12(1 - x)$$

where x = the portion of total runoff that was surface runoff = 40%.

SEDIMENTATION

Single and Mixed Cover Watersheds

In 1979, there were four rainfall events during the cropping season that yielded sizeable amounts of runoff and caused severe erosion and sediment transport. Hyetographs, total precipitation and erosivity potential were analyzed for each of the events, and review of the data indicated that amounts and intensities of rainfall varied considerably within the watershed for given events. Severe erosion occurred in July, even though crop canopy had reached approximately 70% for the corn watershed (site 1) and 20% for the soybean watershed (site 2).

Of note, as discussed above, is that for these severe events, the total runoff from each of sites 1 and 2 was nearly identical, regardless of tillage or canopy. As also evidenced in 1976 to 1978, 1979 flow-weighted sediment concentrations for the larger events were generally greater for the soybean cropped watershed (moldboard plowed before planting) than for the watershed in corn (disked before planting); Table 8. Given equal amounts of runoff from each site, then, total sediment load lost from the soybean watershed would be greater than the load lost from the watershed in corn. For all events analyzed the sediment load decreased as sediment moved from field (sites 1 and 2) to intra-basin (sites 7 and 8) to stream (site 4).

In 1980, when the soybean cropped watershed was chisel plowed, 33% residue cover remained after planting, and sediment concentrations were less than those for the corn watershed which had been disked and had only 8% residue cover after planting (Table 8). There was much less rainfall-runoff from the chisel plowed watershed, resulting in soil losses only one-fifth of those from the disked watershed.

For a given site and runoff event, sediment concentrations, flows, and sediment particle size distribution were directly related; as flow increased, the sediment concentrations increased (even for severe events, the peak sediment concentration generally preceded or occurred simultaneously with the peak flow rate), and as flow decreased, sediment concentration likewise decreased. Further, as flow and sediment concentration increased, the average particle size of sediment in transport also increased.

During the less severe events, the intra-basin station (site 8) exhibited the most fine-sized sediment enrichment; the watershed outlet (site 4) carried more coarse material than did the intra-basin station. During the severe events, the greatest amount of fine-sized enrichment occurred at the watershed outlet rather than at the intra-basin station. The load-weighted size distributions at the watershed outlet were quite similar for all the May to July events, while those at sites 1, 2 and 8 were quite dissimilar, with much more coarse material transported during the severe events. This may have been due to the decreased effectiveness of grassed waterways and small pondage areas for sediment removal during the severe events. Flow samples at all sampling locations contained sediment primarily in the silt and clay range.

TABLE 8. FLOW-WEIGHTED SEDIMENT CONCENTRATIONS

Date	Sediment concentration ppm*	
	Soybeans	Corn
4/20/79	835	5903
6/4/79	--†	8632
6/9/79	--	17500
6/12/79	63820	65949
6/19/79	--	11020
6/27/79	46884	26120
7/3/79	79926	40347
7/13/79	39956	25339
8/19/79	3636	7414
8/21/79	6685	9709
10/22/79	--	2420
11/21/79	2428	--
5/29/80	13668	25479
6/2/80	14498	18268
6/7/80	6759	16394
6/13/80	6279	15745
8/6/80	9038	695
8/11/80	4737	1793

*Equal to mg sediment per liter of flow.

†Unsampled or zero flow at this site.

The major portion of the sediment deposition above the flumes at sites 1 and 2 occurred during the severe events in 1979. For most events, it appeared that the trapping efficiency of the ponding area due to the small dikes and flumes was roughly 20 to 50% of the total sediment load that arrived at the area. This, combined with decreasing sediment loads at downstream locations, exhibited the sediment trapping effects of fencelines, waterways and so on, which undoubtedly occur in most agricultural watersheds. Particle size distribution of the sediment deposited in this pondage area indicated that sediments were primarily in the silt and clay range (Appendix E).

Figure 4 provides a comparison of load-weighted particle size distributions for one of the small field-sized watersheds (site 1) and the intra-basin station (site 8) for the severe events of 1979 and some smaller events during 1976 to 1978. For the smaller events, the load-weighted distributions were quite similar and showed more finer sized material that for the severe events of 1979, particularly for the intra-basin station. For the stream station (site 4), however, size distributions for all the May to July events, regardless of severity, were grouped fairly close together (Figure 5).

Analyses of sediment particle size distribution, sediment loads, flow-weighted sediment concentrations, and sediment deposition for severe events were further discussed by Hamlett et al. (1981).

Channel Observations

Cross Sections --

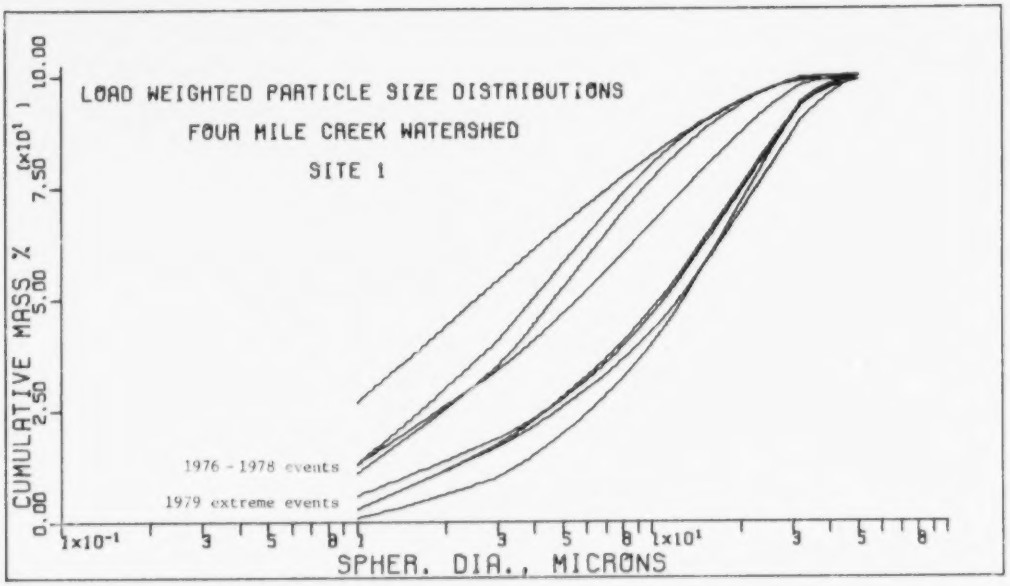
From 1967 to 1979, the channel sections generally increased in cross sectional area when comparing spring measurement in a given year with spring measurements in succeeding years (Table 9); comparison of the 1979 and 1980 spring channel measurements did not, however, show this trend. The spring, 1980 survey measurements, when compared to the spring, 1979 measurements, showed that nine of 14 cross sections compared had smaller channel areas.

Comparison of the survey data from spring to fall within a year (for 1979 and 1980) indicated that the channel sections tended to decrease in area during this period. From spring to fall, 1979, 10 of the sections decreased in cross sectional area; in 1980, 11 of the sections showed a decrease.

Channel measurement data are presented in Appendix E.

Stream Bank Core Samples --

Particle size analyses of stream bank samples for the 15 cross section locations were reviewed. Kimes et al. (1979) concluded from these data that, on average, 99% of the particles were finer than 50 microns, 95% finer than 21 microns, 55% finer than 16 microns, and 2% finer than 1 micron in size. No further analyses of these data were undertaken.



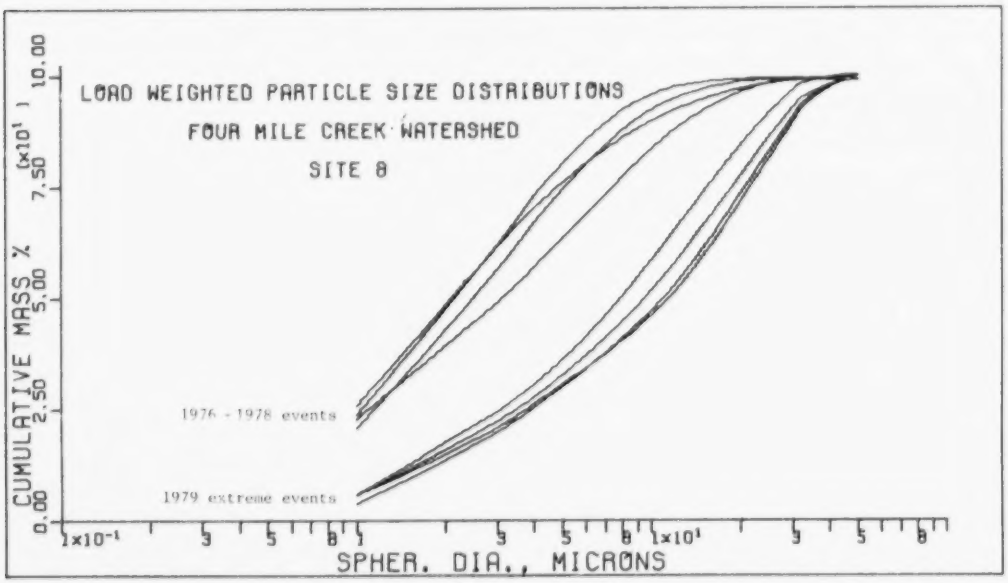


Figure 4. Load-weighted particle size distributions by events for site 1 and site 8.

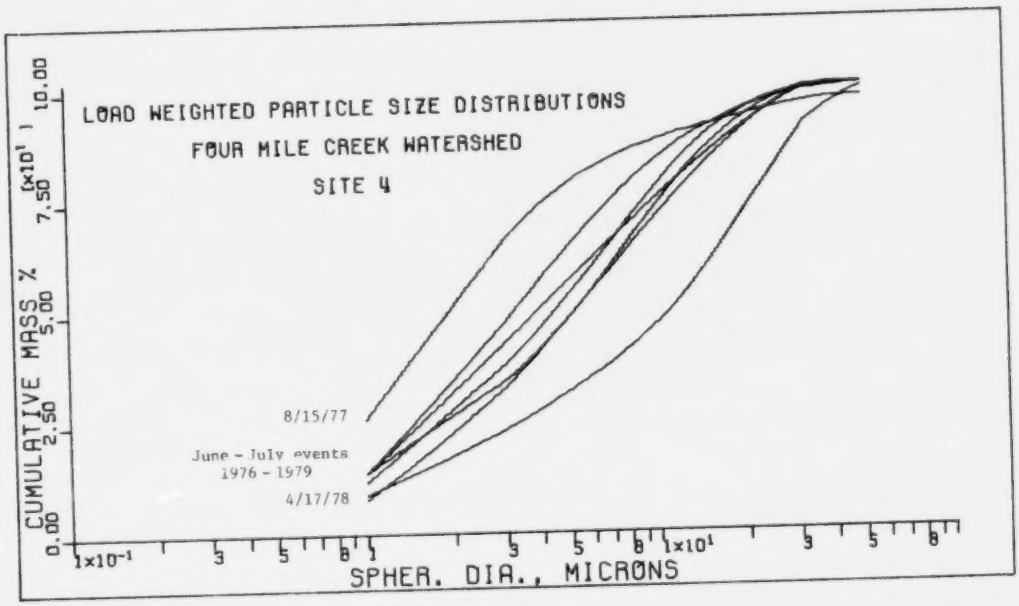


Figure 5. Load-weighted particle size distributions by events for site 4.

TABLE 9. FOUR MILE CREEK CROSS SECTION AREAS

Cross section	Overbank elevation* m	Area 6-1967 m^2	4-1977 m^2	4-1978 m^2	4-1979 m^2	8-1979 m^2	4-1980 m^2	6-1980 m^2	11-1980 m^2
1	279.38	6.48	13.26	13.73	14.68	15.35	15.25	14.76	14.53
2	280.51	10.70	17.74	18.37	18.65	18.97	18.92	19.44	19.21
3	281.48	10.40	14.87	14.61	15.25	15.01	15.37	15.37	15.38
4	282.03	8.60	13.24	12.89	12.90	12.26	13.08	12.39	11.92
5	283.10	9.84	12.98	13.70	13.62	13.60	13.20	13.00	12.54
6	283.95	12.64	19.52	19.06	20.19	19.95	21.87†	15.19§	15.08§
7	284.81	14.65	16.81	17.37	18.29	18.38	18.15†	11.55§	11.27§
--∞	290.66	--¶	3.51	3.51	3.17	2.56	2.69	2.54	1.96
8	285.17	5.76	5.97	6.48	7.47	7.45	7.63	8.07	7.76
9	286.30	9.75	10.45	10.20	10.65	10.64	10.53	10.29	9.97
10	287.06	8.24	10.50	10.00	10.23	9.77	9.83	9.48	9.84
11	287.43	--¶	7.65	7.71	9.14	7.89	7.93	7.98	7.70
12	290.29	--¶	13.53	13.47	14.72	14.41	14.97	14.62	14.16
13	294.07	--¶	7.98	7.78	7.58	6.94	7.41	5.66	7.16
14	297.85	--¶	3.79	3.79	4.06	3.64	3.96	3.59	3.68
15	303.15	--¶	8.82	9.38	9.54	9.47	9.47	9.65	9.50

*The same overbank elevation was used for all calculations of areas at a given cross section.

†This section was disturbed due to channel modification by the landowner.

§This section location was changed due to stream channel straightening which destroyed the previous section.

∞This section is located on Half Mile Creek upstream from its confluence with Four Mile Creek.

¶This section was established in 1977.

Stream Bed Core Samples --

Data for stream bed core samples taken in 1979 and 1980 are presented in Tables E4-1 and E4-2. As during previous years of this study, particle size analysis data indicated quite varied sizes: at the different sections, for the three cores taken at a given section, and within the layers of a given core. A preliminary review revealed no discernible pattern either with depth or location. Bed material was generally much larger than the sediments in runoff from the watershed or in the stream banks.

Bed Load Samples --

Data for bed material samples taken during runoff events are presented in Table E5-1. With one exception, all material was less than 4 mm diameter size, with sand sized material (>62 microns) accounting for 2 to 98% of the total sample. As with bed core samples, no pattern of size distribution of bed load material was apparent, even for samples taken at the same location.

Stream Bed Scour Chains --

Due to the large runoff events in 1979, considerable sloughing of the channel banks occurred and all but one of the nine brass chains placed in the stream bottom to estimate the scour were lost, so no stream bed scour data were obtained in 1979, and no attempt was made to reestablish this measurement technique in 1980.

NUTRIENTS

Nutrient concentration data for selected events are presented in Table 10 to show relationships between concentrations in precipitation, surface runoff from the row-cropped and pasture watersheds, stream flow surface runoff, stream flow from subsurface drainage, and tile drainage water. Nutrient concentrations in snowfall are arithmetic averages of snowfall samples; for rainfall events, the concentrations are for the total rainfall sample. Where values were not available because of insufficient or no samples, the annual average was used. Concentrations for sites 1 to 4 for each event were computed as flow-weighted averages (losses in kg/ha divided by flow in dm). For site 4, surface runoff was separated from total stream flow during rainfall-runoff events as discussed above. For snowmelt, all stream flow was considered to be surface runoff (possible errors from this assumption are discussed below). Surface runoff losses for site 4 were determined by subtracting subsurface losses (total flow minus surface flow, times subsurface concentrations) from total losses. Subsurface concentrations at site 4 were calculated as the average of the two daily samples taken before the event and the two daily samples taken after the event. Concentrations for tile drainage water were the arithmetic averages of concentrations from the 10 tile drains sampled in the week prior to an event.

Annual nutrient loss data and nutrient amounts deposited with precipitation for 1979 and 1980 are presented in Table 11, together with annual flow-weighted concentrations. Arithmetic average concentrations of nutrients in tile drainage water are presented in Table 12.

TABLE 10. SOLUBLE CHEMICAL CONCENTRATIONS FOR SELECTED EVENTS

	Volume mm	NH_4-N	NO_3-N	PO_4-P ppm	Cl	TDS
Snowmelt (3/3/79 - 4/5/79)						
Precipitation	--*	1.07	1.7	0.057	2.8	22
Site 1 (corn 1979)	116.0	0.37	1.9	0.094	6.7	55
Site 2 (soybeans 1979)	72.6	0.30	0.9	0.169	8.3	78
Site 3 (pasture)	39.6	0.39	1.2	0.812	4.7	92
Site 4 (runoff)	186.4	1.09	5.2	0.292	11.1	189
Site 4 (base flow)	--	0.20	10.5	0.048	16.2	291
Tile drains (during)	--	0.44	8.7	0.271	14.2	261
(after)	--	0.01	12.3	0.056	15.5	279
4/20/79 - 4/21/79						
Precipitation	38.4	0.44	0.5	0.064	5.6	18
Site 1	1.2	0.21	0.5	0.410	2.4	24
Site 2	<0.1	0.71	0.7	2.830	12.7	95
Site 3	1.5	--	--	--	--	--
Site 4 (runoff)	7.8	0.70	6.7	0.254	12.1	225
Site 4 (base flow)	--	0.01	12.7	0.065	18.4	295
Tile drains	--	0.01	12.5	0.052	15.8	283
6/4/79						
Precipitation	20.2	1.96	0.9	0.026	1.6	27
Site 1	1.2	1.20	8.2	0.123	16.9	421
Site 2	0.0	--	--	--	--	--
Site 3	0.0	--	--	--	--	--
Site 4 (runoff)	0.3	1.17	11.6	0.045	11.8	234
Site 4 (base flow)	--	0.08	11.6	0.013	12.6	283
Tile drains	--	0.02	13.8	0.035	17.5	367
6/12/79						
Precipitation	41.3†	0.61	0.3	0.026	0.3	17
Site 1	36.2	1.01	7.0	0.120	3.5	109
Site 2	35.8	0.09	1.2	0.120	1.0	114
Site 3	0.1	--	--	--	--	--
Site 4 (runoff)	10.9	0.33	5.8	0.090	4.4	139
Site 4 (base flow)	--	0.04	14.0	0.048	14.2	346
Tile drains	--	0.02	14.1	0.030	14.4	332

*Nutrients in snowfall are averages of all snowfall sampled.

†Number given is the watershed average; at sites 1 and 2 rainfall for 6/12/79 was 61.5 mm.

TABLE 10 (continued).

	Volume	NH_4-N	NO_3-N	PO_4-P	Cl	TDS
	mm			ppm		
6/27/79-6/28/79						
Precipitation	40.6	0.44	0.2	0.014	0.2	7
Site 1	12.9	0.09	2.0	0.102	1.2	59
Site 2	12.7	0.03	1.7	0.126	1.2	96
Site 3	0.1	--	--	--	--	--
Site 4 (runoff)	6.1	0.26	4.1	0.089	3.7	95
Site 4 (base flow)	--	0.03	15.3	0.026	15.4	313
Tile drains	--	0.01	15.3	0.016	13.4	382
7/3/79						
Precipitation	72.7	0.26	0.2	0.002	0.1	7
Site 1	34.3	0.02	1.0	0.076	1.0	105
Site 2	40.3	0.03	1.3	0.076	0.7	106
Site 3	13.6	0.12	0.2	0.753	1.8	--
Site 4 (runoff)	19.0	0.09	2.8	0.067	2.9	102
Site 4 (base flow)	--	0.03	16.8	0.030	15.2	340
Tile drains	--	0.02	15.8	0.057	13.7	371
7/13/79-7/14/79						
Precipitation	68.1	0.50	0.5	0.036	0.4	7
Site 1	34.8	0.03	1.0	0.080	1.2	64
Site 2	34.3	0.07	0.8	0.071	0.8	74
Site 3	9.3	0.30	0.5	0.814	2.0	136
Site 4 (runoff)	17.3	0.07	1.2	0.105	1.2	82
Site 4 (base flow)	--	0.03	14.9	0.032	16.3	360
Tile drains	--	0.06	16.2	0.042	17.7	329
8/19/79-8/20/79						
Precipitation	70.4	0.32	0.4	0.026	0.1	7
Site 1	4.1	0.06	0.3	0.108	0.3	39
Site 2	0.8	0.01	0.8	0.065	0.5	31
Site 3	0.0	--	--	--	--	--
Site 4 (runoff)	3.1	0.42	4.6	0.094	9.0	187
Site 4 (base flow)	--	0.10	11.1	0.018	18.5	292
Tile drains	--	0.04	14.5	0.044	16.0	352
8/21/79-8/22/79						
Precipitation	35.1	0.32	0.3	0.016	4.3	23
Site 1	8.6	0.05	0.3	0.075	1.3	37
Site 2	1.8	0.06	0.4	0.051	1.4	25
Site 3	0.6	0.41	0.6	1.318	8.6	79
Site 4 (runoff)	5.4	0.22	1.9	0.078	6.6	105
Site 4 (base flow)	--	0.12	12.4	0.028	17.0	302
Tile drains	--	0.04	14.5	0.044	16.0	352

TABLE 10 (continued).

	Volume mm	NH_4-N	NO_3-N	PO_4-P ppm	Cl	TDS
10/22/79-10/23/79						
Precipitation	70.3	0.07	<0.1	0.013	1.3	66
Site 1	1.6	0.38	0.0	0.130	4.6	47
Site 2	1.1	--	--	--	--	--
Site 3	0.0	--	--	--	--	--
Site 4 (runoff)	4.0	0.58	6.3	0.322	15.5	218
Site 4 (base flow)	--	0.11	10.4	0.029	19.8	273
Tile drains	--	0.08	10.2	0.061	20.3	360

TABLE 11. NUTRIENTS AND SEDIMENT IN PRECIPITATION, SURFACE RUNOFF, AND CREEK FLOW

	Year	Depth	NH_4-N		NO_3-N		PO_4-P		Cl		TDS		Sediment	
		mm	ppm	kg/ha	ppm	kg/ha	ppm	kg/ha	ppm	kg/ha	ppm	kg/ha	ppm	kg/ha
Precip.	1979	1009	0.59	5.97	0.6	6.3	0.035	0.357	1.6	16.2	7	74	--	--
	1980	744	0.70	5.24	0.8	5.7	0.063	0.467	0.8	6.1	11	82	--	--
Runoff														
Corn:														
Site 1	1979	251.5	0.34	0.86	2.2	5.7	0.096	0.242	4.0	10.1	69	175	20424	51369
Site 2	1980	119.6	0.52	0.62	1.3	1.6	0.723	0.865	10.2	12.2	88	105	9245	11061
Soybeans:														
Site 2	1979	199.3	0.14	0.28	1.0	2.0	0.120	0.240	3.6	7.2	91	180	37771	75272
Site 1	1980	88.4	0.52	0.46	1.3	1.1	1.512	1.336	20.4	18.1	133	118	2458	2172
Pasture:														
Site 3	1979	66.1	0.31	0.21	1.0	0.6	0.787	0.520	3.7	2.4	83	55	64	42
	1980	45.3	0.47	0.21	1.1	0.5	0.930	0.421	8.2	3.7	63	29	30	14
Intra-basin														
Site 7	1979	111.4	0.52	0.57	3.5	3.9	0.671	0.748	8.8	9.8	135	150	1100	1225
	1980	92.4	1.02	0.94	3.4	3.1	0.808	0.746	7.6	7.0	148	137	6034	5576
Site 8	1979	137.4	0.22	0.30	2.1	2.8	0.293	0.403	4.8	6.7	96	132	13769	18914
	1980	74.0	0.36	0.26	1.5	1.1	0.328	0.243	7.4	5.5	97	72	8828	6534
Creek														
Site 6	1979	349.3	0.20	0.72	8.8	30.7	0.115	0.402	11.2	39.1	230	804	4328	15120
	1980*	143.1	0.63	0.90	6.1	8.8	0.318	0.456	13.5	19.3	214	306	2064	2954
Site 5	1979	422.7	0.54	2.29	8.9	37.7	0.248	1.048	14.2	59.9	267	1129	1693	7156
	1980*	179.2	0.70	1.25	7.1	12.7	0.209	0.375	14.0	25.0	221	396	2075	3718
Site 4	1979	444.6	0.52	2.33	8.0	35.4	0.155	0.689	12.0	53.3	220	977	1712	7612
	1980	182.4	0.51	0.93	6.3	11.5	0.141	0.258	13.2	24.1	247	450	2062	3760

*Data are for January through September, 1980 only.

TABLE 12. NUTRIENTS IN TILE FLOW

Site	NH_4-N Avg.	NH_4-N Std. dev.	NO_3-N Avg.	NO_3-N Std. dev.	PO_4-P Avg.	PO_4-P Std. dev.	Cl Avg.	Cl Std. dev.	TDS Avg.	TDS Std. dev.
	ppm		ppm		ppm		ppm		ppm	
1979										
10	0.03	0.06	11.67	6.73	0.028	0.032	12.97	10.52	304	118
11	0.03	0.05	10.83	2.03	0.029	0.018	12.77	2.67	264	58
12	0.06	0.19	12.17	3.27	0.062	0.095	17.67	5.10	306	103
13	0.19	0.41	16.69	4.72	0.120	0.183	16.95	5.16	347	95
14	0.29	0.51	11.90	3.83	0.173	0.186	18.31	11.05	342	97
15	0.19	0.35	10.39	2.62	0.142	0.130	18.13	9.73	304	87
16	0.12	0.28	19.65	4.34	0.126	0.230	22.85	7.50	405	95
17	0.19	0.85	14.99	3.41	0.128	0.320	16.97	7.32	339	71
18	0.03	0.07	7.12	2.73	0.054	0.050	10.11	4.74	243	61
19	0.02	0.05	8.12	1.55	0.040	0.062	14.37	3.01	308	54
1980										
10	0.15	0.53	9.92	3.00	0.034	0.064	10.96	2.69	289	66
11	0.03	0.05	7.46	2.34	0.045	0.058	13.51	4.32	258	62
12	0.05	0.09	9.43	3.22	0.058	0.094	22.62	3.89	320	62
13	0.04	0.10	16.59	6.08	0.028	0.040	16.96	3.69	323	67
14E*	0.14	0.33	10.85	3.59	0.237	0.343	19.66	4.39	351	81
14W*	0.29	0.40	7.04	2.14	0.415	0.510	72.17	77.29	439	178
15	0.04	0.06	9.91	3.59	0.073	0.029	14.02	1.84	348	61
16	0.10	0.34	18.79	6.01	0.097	0.205	26.67	3.02	430	70
17	0.17	0.42	12.80	4.07	0.123	0.301	20.40	2.57	370	55
18†	0.00	0.00	8.52	0.89	0.023	0.009	11.65	0.00	256	132
19	0.02	0.02	8.16	0.67	0.014	0.006	17.10	1.89	322	36

*Tile outlet site 14 was removed in November, 1979, and two new outlets were installed in its place because of the installation of a new line for a tile outlet terrace system.

†Two samples only.

NH_4-N

During snowmelt, NH_4-N concentrations in runoff from the row-cropped watersheds were somewhat higher than concentrations later in the growing season (excluding the events immediately after N fertilization, discussed below). It is known that snowfall contains about 1 ppm NH_4-N; the concentrations of NH_4-N in snow on the soil surface may be increased by further adsorption of NH_4-N from the atmosphere and (or) increased concentration due to sublimation of the snow. It is also possible that the crop residue on the soil surface releases some NH_4-N. One of the differences between snowmelt runoff and later rainfall-runoff is the degree of contact with the soil; for snowmelt, sediment concentrations are low and much of the flow occurs over ice or frozen soil, whereas for rainfall-runoff, the mixing action of raindrop splash and much higher sediment concentrations cause more contact between soil and runoff water. This contact and the resultant NH_4^+ adsorption by soil is believed to be the reason that NH_4-N concentrations in rainfall-runoff from the row-cropped watersheds are often less than those in precipitation and also less than those in snowmelt.

NH_4-N concentrations in stream flow during snowmelt were higher than those from any of the three single cropped watersheds (sites 1, 2 and 3); however, none of these watersheds had fresh animal wastes on them. For the mixed cover watershed (site 7) which contained livestock and a feed-lot, NH_4-N concentrations were equal to or greater than those for site 4, and it is believed that animal wastes on frozen soil accounted for the difference between sites 1, 2 and 3 versus site 4.

In calculating NH_4-N (and other nutrient) concentrations in snowmelt runoff for site 4, it was assumed that all the stream flow was surface runoff when it was known that the tile drains were flowing, even though soil thermometers at two upland areas indicated that there was frost in the soil profile. Comparing the nutrient concentrations in tile drainage water with those in stream flow during snowmelt did not show a lot of difference. Comparing NH_4-N (and PO_4-P) concentrations in tile flow during snowmelt with those in tile flow at any other time showed that during snowmelt concentrations were significantly higher. When the soil is completely thawed, NH_4-N is believed to be extracted from percolating water by adsorption to cation adsorption sites in the subsoil, hence the low (< 0.1 ppm) concentrations. Therefore, it is believed that a major portion of subsurface drainage during snowmelt is water percolating quickly, without much soil contact, through partially unfrozen areas of soil; hence, the assumption that all the stream flow during snowmelt is equivalent to surface runoff is acceptable when considering NH_4-N.

NH_4-N concentrations in runoff from the corn watershed in 1979 and 1980 were highest in runoff for the first events following N fertilizer application, although they were ≤ 2 ppm, but probably would have been higher if the fertilizer had not been incorporated by disking. Concentrations of NH_4-N in surface runoff in stream flow were also highest for the first event in June for the 1979 data shown (Table 10). NH_4-N concentrations in stream base or subsurface flow between events were very similar to those in the tile drainage water, and therefore also low.

Annual NH_4-N losses from the single cover watersheds were all less than 1 kg/ha, and much less than the 5 to 6 kg/ha deposited with precipitation. Total watershed losses (site 4) were at most 2.3 kg/ha, the majority of which occurred during snowmelt in 1979.

NO_3-N

During snowmelt, NO_3-N concentrations in runoff from the three single cover watersheds were very similar to concentrations in the snowfall itself, however concentrations calculated for surface runoff for stream flow during snowmelt were somewhat higher than any of the surface sources. In this case, the assumption that all the stream flow was surface runoff probably caused the discrepancy. The subsurface flow data indicated that some high NO_3-N content water was reaching the stream before snowmelt began.

As with NH_4-N, the highest NO_3-N concentrations in surface runoff for the corn and whole Four Mile Creek watersheds occurred for the events(s) following N application in the spring; however, the concentrations in runoff from the corn watershed were many times less than the concentrations in the surface centimeter of the soil profile, sampled on June 7, 1979. This is due to sufficient rainfall having initially infiltrated (and carried much of the NO_3-N present in the top few millimeters into the soil to a depth below the zone of interaction with overland flow) prior to the occurrence of runoff.

As evidenced by the high NO_3-N concentrations in tile drainage water (Table 12) and in subsurface stream flow, the leachability of NO_3-N, which prevents large surface runoff losses, can result in subsurface leaching losses. The very close match between NO_3-N concentrations (and Cl and TDS concentrations, discussed below) in subsurface stream flow and in the tile drainage water, would indicate that during the sustained high flow between closely spaced rainfall-runoff events, most of the stream flow consisted of subsurface drainage from tile drains. During very low flow conditions, in-stream NO_3-N concentrations decreased to low levels, implying that stream flow was predominantly subsurface drainage from below the tile drains (base flow).

Annual NO_3-N losses in surface runoff averaged 2.6 kg/ha from the row-cropped watersheds and less than 1 kg/ha from the pasture watershed. This was less than the 6 kg/ha deposited with precipitation. Annual NO_3-N losses with stream flow were much larger because they included leaching losses. On a watershed basis in 1979 and 1980, an average of 23 kg/ha was lost (95 kg N/ha was applied as fertilizer). This loss represents an energy and economic as well as an environmental concern.

PO_4-P

During snowmelt, PO_4-P concentrations in runoff from the row-cropped watersheds were similar (≤ 0.1 ppm) to those for rainfall-runoff events later in the growing season after tillage and planting (excluding the events immediately after P fertilization, discussed below). This indicates that the unincorporated corn and soybean residue was releasing little, if any, PO_4-P to snowmelt runoff. However, PO_4-P levels in snowmelt runoff from the pasture were high (nearly 1 ppm) because of dead and decaying grass, animal wastes,

and previously applied P fertilizer on the soil surface. The high in-stream (site 4) levels of PO_4-P during snowmelt probably also resulted from these surface sources of PO_4-P.

The effect of soil incorporation in significantly decreasing PO_4-P in runoff is illustrated by the high PO_4-P concentrations for site 2 on April 20, 1979, two days after 75 kg/ha P_2O_5 were applied and only incorporated by plowing on half the watershed. The plowing was completed by April 23, and the next runoff event was on June 12; at that time, PO_4-P concentrations were 24 times lower. Similarly, comparison of concentrations in snowmelt for 1980 from sites 1 and 2 (average about 1.5 ppm; see Appendix G) with snowmelt data for 1979, showed a difference of about 10 to 15 times. The higher concentrations in 1980 resulted from P application in December, 1979 without soil incorporation. However, losses were only about 1 kg/ha with winter rains and snowmelt in 1980.

If there was any pattern in PO_4-P concentrations in runoff from the row-cropped watersheds during an event, generally concentrations were lowest early in the event at higher flows and increased at the very end of the event during the very low flows, when there was less water for dilution and more time for more intimate contact between runoff water and soil. The pattern of PO_4-P concentrations in stream flow during a runoff event was of highest concentrations usually right after peak sediment concentrations (near or slightly after peak flow). It is possible that buffering of PO_4-P concentrations by sediment at high sediment concentrations was occurring.

Annual PO_4-P losses from the single cover watersheds were in the range of 0.25 to 1.34 kg/ha, with about 0.4 kg/ha deposited with precipitation. Losses from the row-cropped watersheds were 7 to 12 times higher when the P fertilizer was applied in December, 1979 and not incorporated until April, 1980. Losses from the watershed as a whole were similar to those in surface runoff from the single cover watersheds, being less than 1 kg/ha.

Cl and TDS

During snowmelt in 1979, TDS concentrations in runoff from the single cover watersheds were similar to those in rainfall-runoff, whereas Cl concentrations were somewhat higher during snowmelt. In-stream Cl and TDS concentrations during snowmelt, like those for NO_3-N were somewhat higher than for any of the single cover watersheds, possibly because the volume of actual subsurface drainage in the stream was large enough to have an effect on concentrations. TDS and particularly Cl concentrations in snowmelt runoff from the row-cropped watersheds in 1980 were higher because of the December, 1979 application of P and K, without incorporation, with the 50 kg/ha of K_2O applied as KCl. The incomplete incorporation of KCl in 1979 before the storm on April 20, 1979, also resulted in high (12.7 ppm) Cl concentrations in runoff. However, for comparison purposes, if all of the Cl applied with K (38 kg/ha) had dissolved in all the precipitation (38 mm; and neglecting any of the Cl already in precipitation, and assuming none was originally present in the soil), the Cl concentration would have been 100 ppm. The large difference between this value and the actual concentration is another indication of the importance of initial infiltration prior to runoff in reducing losses of soluble chemicals

in surface runoff. As with NO_3-N, the leachability of Cl and TDS which prevents greater losses in surface runoff, results in high concentrations in subsurface drainage water. There is close agreement of Cl and TDS concentrations in tile drainage water with those in subsurface drainage (base flow) in stream flow.

As discussed in the section on hydrology, the relative concentrations of Cl, TDS and NO_3-N in surface and subsurface flow can be used to estimate the relative proportions of these sources of flow in total stream flow.

Annual losses of TDS and Cl in surface runoff from the single cover watersheds were roughly equal to the amounts deposited with precipitation. Losses of TDS and Cl with stream flow, like NO_3-N, were much greater because they included leaching losses.

Nutrients in Sediment

It was found that in general nutrient concentrations in sediment increased as sediment concentrations in runoff decreased for sites 1, 2 and 4. This would be expected if chemical activity of sediment increased as sediment size decreased (greater surface area per unit mass) and, as shown, sediment size decreased as sediment concentrations decreased. The equation:

$$\text{nutrient concentration} = a(\text{sediment concentration})^{-b}$$

where a and b are empirical parameters, fitted the nutrient and sediment concentration data quite well. Values for these parameters and representative concentrations of kjeldahl-N and total-P are given in Table 13. All of the sediment-nutrient data for the total five year study for sites 1 and 2 were combined. As shown, in going from a sediment concentration value of 10,000 ppm to 100 ppm, kjeldahl-N increased by a factor of 1.7 and total-P by 2.3 times for sites 1 and 2. For site 4, the respective values were less: 1.5 and 1.1 times, respectively. The goodness of fit of the equation for site 4 data, as evidenced by the values of r, was also less than for sites 1 and 2, which might be expected due to the different sources of sediment which may void the relationship (particularly stream bank, gully or rill erosion versus field sheet erosion).

Total N and P losses with sediment and water are presented in Table 14. For the row-cropped watersheds, sites 1 and 2, total N and P losses were dominated by the losses associated with sediment. Only for the soybean watershed in 1980 (site 1) did the soluble loss approach the sediment loss; this was for P where soluble losses were increased by surface P application before snowmelt, and chisel plowing, rather than moldboard plowing, considerably reduced erosion and therefore sediment-P losses. For the whole watershed, total P losses were also dominated by sediment losses, although they were less than for the row-cropped watersheds because of sediment deposition en route from field to stream, particularly in 1979. For nitrogen, soluble N losses (dominated by the NO_3-N leaching losses) were slightly greater than N losses with sediment.

Raw nutrient data are presented in Appendix F.

TABLE 13. PARAMETERS AND REPRESENTATIVE CONCENTRATIONS FOR EQUATIONS RELATING NUTRIENT CONCENTRATIONS IN SEDIMENT TO SEDIMENT CONCENTRATIONS*

	a	b	r†	nutrient conc. @ X sedt. conc. (ppm) X=100	X=1000	X=10000	X=100000
				ppm			
Kjeldahl-N							
Sites 1 and 2	6675	0.1100	0.52	4022	3122	2424	1881
Site 4	6255	0.0850	0.39	4229	3477	2859	2351
Total P							
Sites 1 and 2	4315	0.1793	0.64	1890	1250	828	548
Site 4	1291	0.0287	0.19	1131	1059	991	928

*Nutrient conc. = $a(\text{sedt. conc.})^{-b}$

†Correlation coefficient for over 650 points for sites 1 and 2; 135 points for site 4.

TABLE 14. FLOW, SEDIMENT AND NUTRIENT LOSSES FOR SITES 1, 2, AND 4

	Flow	Sediment	N		P	
			Soluble	Sediment	Soluble	Sediment
	mm	tonne/ha	kg/ha		kg/ha	
1979						
Site 1	251.5	51.4	6.6	105.8	0.24	32.7
Site 2	199.3	75.3	2.3	148.9	0.24	44.8
Site 4	444.6	7.6	37.7	23.2	0.96	7.7
1980						
Site 1	88.4	2.2	1.6	5.3	1.34	1.8
Site 2	119.6	11.1	2.2	25.1	0.86	8.3
Site 4	182.4	3.8	12.4	11.4	0.26	3.8

PESTICIDES

Table 1 gives the names, water solubilities and vapor pressures of the four herbicides applied to sites 1 and 2. The formulated herbicides (emulsifiable liquids, 4 L) were applied with a pull-type broadcast sprayer, with about 187 L/ha of water, at 7.2 km/h travel speed and 275 kPa pressure. Table 15 gives the results of spray and filter paper analyses in the determination of the amounts applied. The intended rates of application were 2.24 kg/ha for all herbicides, with the exception of metribuzin, which was 0.56 kg/ha.

Application was made during still periods of early morning or early evening, to decrease the possibility of drift losses. As shown in Table 15, there were no consistent differences between what was measured leaving the spray nozzle, and what reached the filter paper discs on the soil surface, indicating that application losses were low. Soil samples were taken within 2 to 4 h after application. With one exception, alachlor in 1980, the amounts measured in the soil surface on the day of application were very similar to the amounts sprayed and deposited on the filter paper. Because of the larger variation in soil sampling (including the 1976 to 1978 data), the choice was made to base herbicide losses on the averages of what was sprayed and what was deposited on filter paper for each herbicide. For alachlor in 1980, it was not clear what caused the low initial soil value; sampling 3 and 8 days later also gave somewhat low values of 1.27 and 0.87 kg/ha, respectively.

Runoff losses of alachlor calculated on the basis of 2.58 kg/ha applied may be low if much less alachlor was present in the soil because of immediate loss (volatilization is remotely possible) between application and sampling 2 to 4 h later. The application rates used for calculation of runoff losses are given in Table 16 for sites 1 and 2 and the whole watershed (site 4); the rates for site 4 were taken from the watershed inventory. Alachlor was the most heavily used herbicide, with an average application rate of over 1.0 kg/ha for the whole watershed.

Results of herbicide soil sampling are given in Appendix G. The coefficients of variation (standard deviation divided by the mean x 100) for herbicide amounts at given times, determined by soil sampling, were often about 20%, and sometimes exceeded 50%. High values such as these are not uncommon in field sampling, where nonuniform chemical application can take place. Soil sampling with depth showed that the herbicides studied did not readily leach to the depths below 15 cm. Most of each herbicide was found in the top 7.5 cm, with the highest soil concentrations usually found in the 0 - 1 cm layer. The highest herbicide concentration found in the 15 - 30 cm layer was 0.06 ppm, for alachlor on 6/5/79, after a rain the previous day.

The soil sampling data show that by late July or August, most of the alachlor, metribuzin and propachlor has dissipated, thereby reducing the chance of runoff losses. Cyanazine amounts present were also measurably reduced, but cyanazine was the most persistent of the four herbicides. Volume sampling after herbicide application but before the first measurable rainfall event indicated that herbicide amounts in the dry soil did not decrease much; it was after the wetting of the soil with the first rain that the herbicide began to dissipate more rapidly.

TABLE 15. HERBICIDES APPLIED TO CORN AND SOYBEANS (SITES 1 AND 2)*

Year		Soybeans		Corn	
		Alachlor	Metribuzin	Propachlor	Cyanazine
		kg/ha		kg/ha	
1979	Spray†	2.81	0.49	2.26	2.51
	Paper§	2.88 (.13)	0.55 (.04)	2.30 (.02)	2.92 (.17)
	Soil∞	2.48 (.34)	0.70 (.13)	2.50 (.62)	3.04 (.66)
1980	Spray	2.57	0.52	2.03	2.19
	Paper	2.60 (.19)	0.40 (.05)	1.99 (.35)	2.08 (.31)
	Soil	0.99 (.22)	0.38 (.04)	2.19 (.32)	2.32 (.31)

*In 1979, site 1 was planted to corn, site 2 to soybeans; the crops were rotated in 1980.

†Values for spray calculated from concentration of spray, spray rate and tractor speed.

§Values for paper calculated from amounts of herbicides collected on filter paper discs (12.5 cm diameter); values in parentheses are standard deviations of three determinations.

∞Values for soil are averages of twelve soil samples (with standard deviation) calculated from weight of sample and cross sectional area of sampler (423 cm^2).

TABLE 16. HERBICIDE APPLICATION RATES FOR SITES 1 AND 2 AND FOR FOUR MILE CREEK WATERSHED AS A WHOLE (SITE 4)

Year	Site	Application rate (kg/ha)				
		alachlor	metribuzin	propachlor	cyanazine	atrazine
1979	Sites 1 & 2*	2.84	0.52	2.38	2.72	0.0
	4 mi wshd.†	1.109	0.099	0.032	0.344	0.282
1980	Sites 1 & 2	2.58	0.46	2.01	2.14	0.0
	4 mi wshd.	1.025	0.066	0.069	0.417	0.397

*Values for sites 1 and 2 from spray and filter paper analyses.

†Values for Four Mile Creek watershed from inventory data and total area of 5055 ha.

Tables 17 and 18 show the percentages of applied herbicides lost from the row-crop and whole watersheds on a storm event and annual basis for 1979 and 1980 (based on the application rates in Table 16). For 1979, there were three particularly severe events for which runoff from the row-cropped watersheds exceeded 34 mm (June 12, July 3 and July 14) and a fourth (June 27) for which runoff exceeded 12 mm. As is almost always the case, in 1979 the first significant storm after herbicide application (June 12) resulted in the largest single-event field losses. From 63 to 93% of the measured annual losses from sites 1 and 2 occurred during this one storm. For the whole watershed, from 46 to 74% of the annual losses occurred during this event. Because of the severe events in 1979, field runoff losses were much higher than they were in 1976 to 1978, when losses of the four herbicides studied never exceeded 1% of the amounts applied. The greatest recorded loss in 1979 was for metribuzin, when 7.2% of that applied was lost from the field and 2.0% from the whole watershed. The trend of lower storm losses from the watershed as a whole than those measured at the field borders, which was evident in the 1976 to 1978 data, was also evident in 1979.

In 1980 (Table 18), the storms in the five-day period of May 29 through June 2 resulted in most of the measured herbicide runoff losses from both the field and whole watersheds. These events also accounted for most of the rainfall-runoff that occurred in 1980. The May-June surface runoff amounts for the whole watershed for 1979 and 1980 were both about 42 mm, and annual herbicide losses were similar (although the relative amounts of alachlor and metribuzin lost were switched). The May-June surface runoff amounts for the disked corn watershed (site 1 in 1979; site 2 in 1980) were also similar (51 mm in 1979, 48 mm in 1980), with cyanazine losses somewhat less for 1980, propachlor losses somewhat greater. For the soybean watershed, moldboard plowed (site 2) in 1979, but chisel plowed (site 1) in 1980, May-June runoff was much less in 1980 (14 mm) than in 1979 (48 mm), and therefore alachlor and metribuzin field losses were also less in 1980. They were so much affected by decreased runoff that the trend of larger field losses than whole watershed losses was reversed for alachlor, and barely there for metribuzin. It appears that for 1980 chisel plowing site 1 decreased herbicide losses by decreasing runoff (as well as by decreasing erosion).

Tables 19 and 20 give the percentages of measured losses from the fields and whole watershed that occurred with runoff water in 1979 and 1980, on a storm and annual basis. For all cases a majority of the annual losses occurred with water. In 1979, severe erosion occurred on the field sites, and losses with water ranged from 58 to 84%; in 1980, with much less erosion on the field sites, losses with water ranged from 70 to 98%. The May-June sediment losses from the whole watershed in 1979 and 1980 were both 2.3 T/ha. The percentages of each herbicide lost with water from the whole watershed in 1979 and 1980 were also similar (but less than for the 1976 to 1978 period, when much less sediment was lost in May and June).

Table 21 gives load-weighted herbicide concentrations in water and sediment and in the 0 - 1 cm layer of the soil profile for 1979 and 1980 storm events. The ratio of the concentration in water to that in sediment gives some indication of the K value associated with the Freundlich

TABLE 17. PERCENTAGES OF APPLIED HERBICIDES LOST FROM ROW-CROP, AND FOUR MILE CREEK WATERSHEDS DURING 1979 STORM EVENTS

Date	Site	Percentage lost			
		alachlor	metribuzin	propachlor	cyanazine
6/4/79	1 & 2	--*	--*	0.128	0.085
	4	0.064	0.016	0.000	0.024
6/12/79	1 & 2	2.532	5.529	0.352	3.930
	4	0.796	1.479	0.068	0.795
6/19/79	1 & 2	--	--	0.001	0.034
	4	0.027	0.044	0.035	0.065
6/27/79	1 & 2	0.054	0.327	0.008	0.536
	4	0.064	0.098	0.000	0.176
7/3/79	1 & 2	0.123	0.889	0.036	0.726
	4	0.059	0.191	0.029	0.288
7/13/79-	1 & 2	0.027	0.453	0.034	0.238
7/14/79	4	0.022	0.077	0.000	0.091
8/19/79	1 & 2	<0.001	0.001	<0.001	0.006
	4	0.002	0.003	0.001	0.004
8/21/79	1 & 2	<0.001	0.001	0.001	0.012
	4	0.002	0.002	<0.001	0.007
Annual	1 & 2	2.736	7.200	0.560	5.566
	4	1.080	2.012	0.647	1.719

*No runoff from site 2.

TABLE 18. PERCENTAGES OF APPLIED HERBICIDES LOST FROM ROW-CROP, AND FOUR MILE CREEK WATERSHEDS DURING 1980 STORM EVENTS

Date	Site	Percentage lost			
		alachlor	metribuzin	propachlor	cyanazine
5/29/80	1 & 2	0.357	0.575	0.241	1.083
	4	1.040	0.407	0.105	0.794
5/30/80	1 & 2	0.003	0.007	0.019	0.058
	4	0.121	0.065	0.033	0.118
6/2/80	1 & 2	0.198	0.480	0.345	1.201
	4	0.342	0.198	0.114	0.412
6/6/80-6/7/80	1 & 2	0.020	0.068	0.049	0.128
	4	0.046	0.018	0.003	0.039
6/13/80	1 & 2	0.001	0.004	0.040	0.134
	4	0.052	0.009	0.002	0.025
6/15/80	1 & 2	0.001	0.006	0.055	0.182
	4	0.196	0.060	0.005	0.129
8/6/80	1 & 2	0.002	0.004	<0.001	0.021
	4	0.004	0.003	0.060	0.030
8/11/80	1 & 2	<0.001	0.004	<0.001	0.002
	4	0.001	0.003	0.001	0.003
Annual	1 & 2	0.582	1.147	0.749	2.850
	4	1.894	0.824	0.447	1.627

TABLE 19. PERCENTAGES OF MEASURED LOSSES FROM ROW-CROP AND FOUR MILE CREEK WATERSHEDS THAT OCCURRED WITH WATER IN 1979

Date	Site	Percentage lost with water			
		alachlor	metribuzin	propachlor	cyanazine
6/4/79	1 & 2	--*	--	97.8	64.1
	4	98.3	98.8	--†	91.8
6/12/79	1 & 2	86.0	84.1	78.5	54.0
	4	97.3	98.5	93.1	83.5
6/19/79	1 & 2	--	--	83.2	87.2
	4	99.6	99.5	99.3	98.8
6/27/79	1 & 2	79.1	91.4	72.7	75.7
	4	91.5	83.0	--	82.3
7/3/79	1 & 2	53.8	69.0	66.1	64.1
	4	87.8	90.1	86.2	80.6
7/13/79-7/14/79	1 & 2	59.9	87.9	88.8	67.4
	4	76.8	78.3	--	69.0
8/19/79	1 & 2	95.0	88.2	53.4	51.1
	4	87.3	82.4	81.8	75.8
8/21/79	1 & 2	86.4	78.7	56.2	46.5
	4	67.5	0.0	67.6	67.8
Annual	1 & 2	84.2	82.8	82.6	58.3
	4	96.1	96.0	92.4	85.2

*No runoff from site 2.

†Losses were zero.

TABLE 20. PERCENTAGES OF MEASURED LOSSES FROM ROW-CROP AND FOUR MILE CREEK WATERSHEDS THAT OCCURRED WITH WATER IN 1980

Date	Site	Percentage lost with water			
		alachlor	metribuzin	propachlor	cyanazine
5/29/80	1 & 2	98.1	96.8	84.0	62.7
	4	95.2	84.4	57.1	83.7
5/30/80	1 & 2	99.4	99.0	97.5	86.0
	4	97.9	94.4	93.4	91.4
6/2/80	1 & 2	97.2	97.2	94.1	72.8
	4	97.7	92.8	91.7	89.5
6/6/80-6/7/80	1 & 2	98.0	97.3	96.0	66.9
	4	98.7	93.2	56.5	91.6
6/13/80	1 & 2	98.4	97.3	96.7	77.9
	4	99.2	89.8	35.7	94.0
6/15/80	1 & 2	98.6	98.1	93.7	75.6
	4	99.5	92.7	0.0	97.0
8/6/80	1 & 2	100.0	98.4	50.0	95.1
	4	96.9	86.4	98.3	81.8
8/11/80	1 & 2	100.0	99.5	80.0	88.9
	4	84.3	100.0	40.0	100.0
Annual	1 & 2	97.8	97.0	91.2	70.0
	4	96.7	89.2	85.3	87.9

TABLE 21. HERBICIDE CONCENTRATIONS IN WATER AND SEDIMENT (LOAD-WEIGHTED) AND IN SOIL (0 - 1 cm) AT TIMES OF STORM EVENTS

Date	Herbicide concentrations											
	alachlor			metribuzin			propachlor			cyanazine		
	water	sedt.	soil	water	sedt.	soil	water	sedt.	soil	water	sedt.	soil
	ppb											
6/4/79	--	--	7185	--	--	2113	254	659	1500	110	7154	6900
6/12/79	173	441	1893	68	200	557	18	75		140	1800	2627
6/19/79	--	--	303	--	--	223	2	41		142	1894	1137
6/27/79	10	54	317	12	24	237	1	16		75	925	1647
7/3/79	5	50	117	8	44	103	2	21		32	448	857
7/13/79-7/14/79	1	22	103	6	21	63	2	9		10	184	637
8/19/79*	<1	4	263	<1	14	63	<1	14		2	222	577
8/21/79	<1	3	--	<1	13	--	<1	7	--	2	181	--
5/29/80†	290	415	3667	82	195	963	26	187	0	93	2091	16743
5/30/80	110	122	3667	37	13	963	45	140	0	129	2545	16743
6/2/80	54	109	1510	23	46	643	32	109	0	91	1860	4355
6/6/80-6/7/80	46	141	1510	28	116	643	35	89	0	100	2057	4355
6/13/80	30	65	327	15	54		28	64	0	79	1629	2950
6/15/80	12	28	327	8	28		18	74	0	52	1009	2950
8/6/80	10	0		3	5		<1	3	0	3	211	767
8/11/80	<1	0		5	3		<1	27	0	3	185	767

*Last soil measurement was 8/1/79.

†Soil samples taken 5/30/80-5/31/80, 6/5/80, 6/18/80, and 7/22/80-7/24/80.

adsorption equation: $C_s = KC_w^{1/n}$. For alachlor, metribuzin and propachlor, this ratio was usually somewhere in the range of 2 to 10; for cyanazine, it was usually in the range of 10 to 20. For the four herbicides studied, the herbicide concentration in sediment was usually less than that found in the 0 - 1 cm layer of the soil profile. The difference between the sediment and soil concentrations appeared to be greater for the more weakly adsorbed herbicides than for the most strongly adsorbed, cyanazine. Concentrations in water, sediment and soil all generally declined with time as the herbicide dissipated.

All the herbicide data are given in Appendix G; where necessary because of insufficient or lost samples, or other problems, herbicide concentrations were approximated from data for related samples in a series.

ANALYTICAL QUALITY CONTROL

Tables 22 through 29 provide precision and recovery data for NH_4-N, NO_3-N, PO_4-P, Cl, sediment, TDS, soil moisture, exchangeable NH_4-N, available-P, total-N and total-P. For the soluble nutrients, the coefficients of variation (C.V.) ranged from about 1 to 6%, with percent recoveries ranging from 96 to 102%. For sediment, total dissolved solids (TDS) and soil moisture, C.V. also ranged from 1 to 6%, with the exception of the low range (~ 20 ppm) for TDS. For exchangeable NH_4-N, available-P, total-N and total-P in soil and sediment, the C.V. ranged from 3 to 41%. Part of this variation could be due to sampling error in trying to get a representative subsample from the soil or sediment sample. Total-N and total-P recoveries were 94 and 92%, respectively. Table 30 shows the results from an inter-laboratory comparison of analyses of some samples and EPA standards. The agreement between laboratories is quite good, with the possible exception of the low range Cl values, where the ERI values are higher (also higher than the EPA-1 low range standard). Agreement between EPA standard values and measured concentrations is also reasonable, with the exception of the PO_4-P values, particularly for the high range. The previous check made in the AgE laboratory with EPA standards showed agreement at both ranges within 2%. This fact, plus the better agreement between laboratories, would indicate that either the standard value was in error, or a problem occurred in preparing the standard to be run.

Tables 31 through 34 provide a comparison of analytical results from the Agricultural Engineering laboratory for herbicides with those from the EPA laboratory at Beltsville, MD (under the direction of Coleman Hall), and those from the ISU Veterinary Diagnostic laboratory (under the direction of Mike Stahr). Concentrations of alachlor and metribuzin (ppb) in runoff water (Table 31) are in reasonable agreement for most samples. The differences relative to Agricultural Engineering values are both positive and negative, with no obvious biases. Concentrations of propachlor and cyanazine in runoff water (Table 32) show scatter similar to that in Table 31, although for concentrations in excess of 100 ppb, EPA values were generally highest. For the lower propachlor concentrations, agreement was sometimes poor, with values below the limit of detection for one laboratory, while measurable in another.

Concentrations of alachlor (ppm) in soil and sediment samples (Table 33) are in quite good agreement for most samples. Concentrations of propachlor and cyanazine in soil and sediment samples (Table 34) show similar scatter to that in Table 33. As with propachlor concentrations in water, disagreement on low values of propachlor in soil and sediment seem to be a problem, with zero or below detectable limits in one case, but measurable values in others.

TABLE 22. PRECISION AND RECOVERY DATA FOR NH_4-N IN SOLUTION

Run #	Sample # 30-205	Sample # 6-536	Sample # 4-458	Sample # 11-194	Sample # 30-205 + 0.267 ppm	Sample # 4-458 + 1.332 ppm
	ppm					
1	0.336	0.752	1.380	2.050	0.641	2.727
2	0.337	0.755	1.341	2.052	0.583	2.572
3	0.342	0.770	1.340	2.058	0.603	2.572
4	0.345	0.734	1.366	2.062	0.592	2.581
5	0.355	0.748	1.324	2.051	0.590	2.555
6	0.350	0.773	1.313	2.042	0.603	2.560
7	0.352	0.773	1.305	2.031	0.610	2.557
average	0.345	0.758	1.338	2.049	0.603	2.589
std. dev.	0.0074	0.0148	0.0273	0.0103	0.0191	0.0615
C.V.	2.1	2.0	2.0	0.5	3.2	2.4
recovery	--	--	--	--	98.5%	97.0%

TABLE 23. PRECISION AND RECOVERY DATA FOR NO_3-N IN SOLUTION

Run #	Sample # 30-241	Sample # 1-581	Sample # 7-237	Sample # 16-138	Sample # 1-581* + 0.826 ppm	Sample # 7-237* + 0.662 ppm
	ppm					
1	0.391	2.594	7.725	22.593	1.623	1.446
2	0.388	2.610	7.698	22.816	1.621	1.507
3	0.387	2.635	7.744	22.879	1.621	1.513
4	0.392	2.617	7.699	22.890	1.632	1.490
5	0.390	2.536	7.548	22.814	1.583	1.480
6	0.383	2.531	7.524	22.195	1.594	1.490
7	0.382	2.544	7.497	22.171	1.592	1.483
average	0.388	2.581	7.634	22.623	1.609	1.487
std. dev.	0.0039	0.0430	0.1056	0.3159	0.0192	0.0218
C.V.	1.0	1.7	1.4	1.4	1.2	1.5
recovery	--	--	--	--	96.1%	99.5%

*Sample 1-581 was diluted 3.041 times to a concentration of 0.849 ppm before the known addition was made; sample 7-237 was diluted 9.163 times to 0.833 ppm.

TABLE 24. PRECISION AND RECOVERY DATA FOR PO_4-P IN SOLUTION

Run #	Sample # 30-241	Sample # 1-572	Sample # 3-197	Sample # 16-121	Sample # 1-572 + 0.160 ppm	Sample # 3-197* + 0.240 ppm
	ppm					
1	0.0288	0.1708	0.7809	1.3247	0.3438	0.4583
2	0.0283	0.1667	0.7948	1.2689	0.3333	0.4729
3	0.0283	0.1667	0.7390	1.2549	0.3292	0.4729
4	0.0273	0.1688	0.7669	1.2828	0.3417	0.4688
5	0.0283	0.1708	0.7530	1.2898	0.3333	0.4792
6	0.0278	0.1688	0.7460	1.2898	0.3333	0.4750
7	0.0293	0.1750	0.7669	1.2898	0.3333	0.4583
average	0.0283	0.1697	0.7639	1.2858	0.3354	0.4693
std. dev.	0.0006	0.0029	0.0197	0.0216	0.0053	0.0082
C.V.	2.3	1.7	2.6	1.7	1.6	1.7
recovery	--	--	--	--	101.7%	100.2%

*Sample 3-197 was diluted 3.348 times to a concentration of 0.2282 before the known addition was made.

TABLE 25. PRECISION AND RECOVERY DATA FOR Cl IN SOLUTION

Run #	Sample # 30-244	Sample # 1-581	Sample # 13-149	Sample # 13-9	Sample # 1-581 + 1.996 ppm	Sample # 13-149 + 5.964 ppm
	ppm					
1	0.523	2.377	12.620	19.372	4.368	18.774
2	0.512	2.341	12.901	19.514	4.351	18.996
3	0.545	2.510	13.071	19.529	4.505	19.187
4	0.485	2.327	12.795	19.144	4.430	19.339
5	0.507	2.153	12.790	19.254	4.147	19.160
6	0.527	2.085	12.501	19.290	3.976	18.756
7	0.527	2.231	12.809	19.262	4.171	18.925
average	0.518	2.289	12.784	19.338	4.278	19.020
std. dev.	0.0190	0.1439	0.1843	0.1422	0.1861	0.2195
C.V.	3.7	6.3	1.4	0.7	4.4	1.2
recovery	--	--	--	--	99.8%	101.5%

TABLE 26. PRECISION DATA FOR SEDIMENT AND TOTAL DISSOLVED SOLIDS CONCENTRATIONS

Run #	Sample # 5-436	Sample # 4-998	Sample # 1-464	Sample # 2-460	Sample # 2-460	Sample # 12-125
	---------- ppm sediment ----------				----- ppm TDS -----	
1	1236	7204	23660	34191	20	336
2	1310	7172	23620	33795	20	331
3	1246	7084	23874	33204	20	319
4	1270	7270	24220	34043	31	320
5	1229	7546	23926	34527	24	320
6	1453	7362	24289	34737	16	334
7	1349	7382	24208	35150	0	332
average	1299	7276	23971	34235	19	327
std. dev.	80	132	274	642	9	7
C.V.	6.2	1.8	1.1	1.9	50.0	2.3

TABLE 27. PRECISION DATA FOR SOIL MOISTURE

Run #	Sample # 1	Sample # 2	Sample # 3
	%		
1	30.39	26.24	25.57
2	30.09	26.27	25.41
3	30.66	26.19	25.15
4	30.43	26.42	25.25
5	30.78	26.35	25.60
6	31.10	26.28	25.43
7	30.39	26.40	25.07
average	30.55	26.31	25.35
std. dev.	0.33	0.09	0.20
C.V.	1.1	0.3	0.8

TABLE 28. PRECISION DATA FOR EXCHANGEABLE NH_4-N AND AVAILABLE-P IN SEDIMENT AND SOIL

Run #	Sample # 3-2	Sample # 3-1	Sample # 3-6	Sample # 2-4	Sample # 2-6	Sample # 2-1
	--------- ppm NH_4-N ----------			--------- ppm avail-P ---------		
1	0.80	2.85	10.15	8.56	14.65	20.62
2	0.75	2.55	7.50	10.12	14.81	21.36
3	0.80	2.40	6.20	8.61	14.48	15.14
4	0.80	2.25	3.65	8.66	17.27	21.11
5	0.85	2.60	2.55	9.06	18.17	18.41
6	0.85	2.65	6.25	8.31	18.17	22.75
7	1.20	2.40	5.85	8.56	15.96	21.93
average	0.86	2.53	6.02	8.84	16.22	20.19
std. dev.	0.15	0.20	2.48	0.61	1.65	2.60
C.V.	17.7	7.8	41.3	6.9	10.1	12.9

TABLE 29. PRECISION AND RECOVERY DATA FOR TOTAL N AND P IN SOIL OR SEDIMENT

Run #	Sample # 2-3	Total N Known addition	Observed total	Sample # 2-3	Total P Known addition	Observed total
	ppm			ppm		
1	2232	--	--	644	--	--
2	2187	2001	3795	623	671	1144
3	1995	1841	3677	584	627	1102
4	2223	2026	3895	620	618	1155
5	2198	2113	4212	642	618	1240
6	2192	2253	4305	631	669	1198
7	2090	1869	3639	615	612	1114
average	2160	2017	3920	623	636	1159
std. dev.	86	--	--	20	--	--
C.V.	4.0	--	--	3.2	--	--
recovery	--	--	93.8%	--	--	92.1%

TABLE 30. INTER-LABORATORY COMPARISON DATA FOR SOME FOUR MILE CREEK AND EPA STANDARD SAMPLES

Source	Sample #1	Sample #2	Sample #3	Sample #4	Sample EPA-1	Sample EPA-2
	mg/L NH_4-N					
AgE*	0.34	0.76	1.25	2.04	0.15	1.42
ERI	0.42	0.84	1.64	2.42	0.31	1.69
EPA	--	--	--	--	0.19	1.30
	mg/L NO_3-N					
AgE	0.39	2.58	7.63	22.5	0.16	1.53
ERI	0.50	2.49	7.66	22.2	0.19	1.69
EPA	--	--	--	--	0.31	1.59
	mg/L PO_4-P					
AgE	0.028	0.171	0.764	1.29	0.041	0.274
ERI	0.026	0.196	0.637	1.45	0.039	0.248
EPA	--	--	--	--	0.031	0.154
	mg/L Cl					
AgE	0.52	2.26	12.8	19.4	18.5	62.7
ERI	1.97	3.10	14.1	19.0	43.5	71.4
EPA	--	--	--	--	20.5	70.2
	ppm kjeldahl-N					
AgE	1802	1721	--	--	0.42	4.98
ERI	1900	1900	--	--	0.44	4.80
EPA	--	--	--	--	0.52	4.12
	ppm total-P					
AgE	560	596	--	--	0.14	1.12
ERI	629	649	--	--	0.14	0.96
EPA	--	--	--	--	0.14	0.93

*AgE values are from grantee's laboratory; ERI values are from ISU's Engineering Research Institute analytical services lab.; EPA values are concentrations given for standards received from the U.S. EPA Cincinnati laboratory.

TABLE 31. COMPARISON OF ANALYTICAL RESULTS FOR ALACHLOR AND METRIBUZIN IN RUNOFF WATER

Sample Date	Time	Alachlor Ag. Eng.	Alachlor EPA	Alachlor Vet. Med.	Metribuzin Ag. Eng.	Metribuzin EPA	Metribuzin Vet. Med.
		ppb			ppb		
6/12/79	1755	301.5	161.0	91.5	105.7	22.8	76.2
	1801	324.1	294.1*	297.8	116.9	109.5*	282.2
	1814	156.0	219.6		66.3	5.7	
	1828	126.0		139.0	45.7		123.5
	1908	136.9		123.5	53.4		138.9
6/27/79	0020	10.3		<17	14.0		<17
	0023	12.7		<17	14.5		<17
	0025	9.6	0.2		11.9		
	0027	10.6		<17	11.5		<17
	0030	12.0		<17	11.6		<17
	0034	11.5	6.4		11.5		
	0039	11.3	12.2	<17	9.1		<17
	0044	10.1	5.9		9.0		
	0048	8.9		<17	7.3		<17
7/3/79	0800	7.6	34.0		5.6	0.5	
	0830	9.1	3.4		5.1	7.1	

*Presence of alachlor and metribuzin confirmed by GC/MS.

TABLE 32. COMPARISON OF ANALYTICAL RESULTS FOR PROPACHLOR AND CYANAZINE IN RUNOFF WATER

Sample Date	Time	Propachlor Ag. Eng.	Propachlor EPA	Propachlor Vet. Med.	Cyanazine Ag. Eng.	Cyanazine EPA	Cyanazine Vet. Med.
		ppb			ppb		
6/4/79	1901	176.8	298.1	45.0	172.5	350.7	164.9
	1906	197.3	305.1	35.3	135.2	642.2	176.3
	1911	214.9	311.2*	48.1	85.3	949.2*	201.6
	1948	189.4	230.4	34.2	104.3	478.0	171.2
6/12/79	1752	57.8	42.0	38.8	170.2	386.7	145.0
	1754	30.3	21.2	16.9	190.2	349.0	101.5
	1756	31.2	<0.4	17.9	240.6	371.7	125.1
	1802	25.1	<0.3	15.3	214.0	76.5	229.1
	1810	32.5	<0.2		180.6	304.9	
	1818	12.1	<0.3		211.6	108.4	
	1826	15.9	<0.3	<3.0	229.6	100.0	37.0
	1834	14.6	<0.2		141.7	157.1	
	1853	12.6	<0.2		145.9	148.9	
6/19/79	2255	2.6	<0.2		139.3	107.4	
	2302	1.9	<0.2		146.0	116.0	

*Presence of propachlor and cyanazine confirmed by GC/MS.

TABLE 33. COMPARISON OF ANALYTICAL RESULTS FOR ALACHLOR AND METRIBUZIN IN SOIL AND SEDIMENT SAMPLES

Date	Sample No. or time	Alachlor			Metribuzin		
		Ag. Eng.	EPA	Vet. Med.	Ag. Eng.	EPA	Vet. Med.
		ppm					
5/20/79	2 (0-1)	0.01	<0.01		0.0	<0.1	
5/21/79	2-2	6.4	2.5	4.7	1.9	0.25	<0.1
	2-8	6.6	3.8	3.6	1.8	0.5	<0.1
5/22/79	2-5	6.6	3.8	3.8	1.6	1.0	<0.1
	2-9	5.6	3.1	6.0	1.4	0.2	0.1
5/25/79	2-4X	5.4	3.1	5.3	1.6	0.5	0.5
	2-10	3.2	0.5	2.2	1.1	0.1	<0.1
5/30/79	2-3	3.7	1.3	1.8	1.2	1.3	0.5
	2-11	2.5	2.8	2.3	0.8	1.0	0.4
6/4/79	2-2	3.2	3.3	1.8	0.8	1.5	<0.1
	2-7X	1.5	1.1	1.2	0.4	0.2	0.1
6/5/79	2 (0-1)	7.3	6.0		1.8	1.8	
	2 (1-7.5)	0.46	0.12		0.21	0.1	
	2 (7.5-15)	0.04	<0.1		0.00	<0.1	
6/14/79	1 (0-1)	2.1	13.0		0.65	0.8	
	1 (7.5-15)	0.01	<0.1		0.01	<0.1	
	1 (15-30)	0.01	<0.1		0.00	<0.1	
6/26/79	3 (0-1)	0.26	<0.1		0.18	0.12	
	3 (1-7.5)	0.30	<0.1		0.18	<0.1	
7/16/79	2 (0-1)	0.03	<0.1		0.04	0.1	
8/1/79	1 (0-1)	0.06	<0.1		0.08	<0.1	
5/23/80	1-1	1.8		3.0	0.7		1.0
	1-5	1.5		4.4	0.8		1.2
5/22/80	3 (15-30)	0.00		0.09	0.00		0.03
6/18/80	2 (1-7.5)	0.05		0.15	0.04		0.11
7/22/80	1 (7.5-15)	0.02		0.15	0.00		0.10
	2 (1-7.5)	0.04		0.17	0.03		0.10
5/29/80	0844 (site 1)	0.415		0.399	0.248		0.296
	1144 (site 4)	0.687		0.913	0.032		0.299
	1350 (site 4)	0.271		0.274	0.025		0.108
6/15/80	0853 (site 4)	0.065		0.054	0.000		0.066

TABLE 34. COMPARISON OF ANALYTICAL RESULTS FOR PROPACHLOR AND CYANAZINE IN SOIL AND SEDIMENT SAMPLES

Date	Sample No. or time	Propachlor			Cyanazine		
		Ag. Eng.	EPA	Vet. Med.	Ag. Eng.	EPA	Vet. Med.
		ppm					
5/8/79	1 (0-1)	0.00	<0.1		0.00	<0.1	
	1 (1-7.5)	0.00	<0.1		0.06	<0.1	
	1 (15-30)	0.01	<0.1		0.00	<0.1	
	1-4	6.0	2.5	10.0	7.0	5.9	3.8
	1-11	6.7	2.5	2.5	8.5	5.2	2.2
5/9/79	1-2	8.8	4.5	5.7	10.5	6.6	3.8
	1-8	7.2	3.3	6.2	9.5	6.6	12.7
5/11/79	1-3	2.6	0.4	3.3	3.9	2.5	0.9
	1-8	2.3	0.2	1.2	3.9	2.4	2.5
5/15/79	1-1	2.6	0.4	4.7	4.2	3.0	1.1
	1-10		<0.2	0.7		2.6	0.9
5/18/79	1-6	3.1	1.0	10.6	4.6	3.4	14.6
	1-7		<0.2	9.1		1.5	5.1
5/21/79	2 (0-1)	2.89	3.9		7.0	6.0	
	2 (1-7.5)	0.20	<0.1		0.70	0.20	
5/7/80	2-2	4.8		3.7	4.8		1.8
	2-9	4.1		2.6	4.4		1.5
5/5/80	3 (7.5-15)	0.04		0.56	0.00		0.11
5/26/80	3 (1-7.5)	0.02		0.42	0.16		0.21
6/18/80	2 (15-30)	0.00		0.42	0.00		<0.02
7/24/80	1 (7.5-15)	0.00		0.62	0.04		0.34
	3 (1-7.5)	0.00		1.14	0.08		0.32
5/29/80	0837 (site 2)	0.183		0.925	1.590		0.032
6/2/80	1704 (site 2)	0.105		0.624	1.618		0.158
	1706 (site 2)	0.120			1.732		
6/13/80	2142 (site 2)	0.070		1.164	1.557		0.230
6/15/80	0322 (site 2)	0.000			0.779		
5/29/80	1144 (site 4)	0.000		0.600	0.526		0.125
	1350 (site 4)	0.000		0.499	0.402		ND
6/15/80	0853 (site 4)	0.024		0.502	0.132		0.158

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APPENDIX A

CROP AND LIVESTOCK INVENTORY OF FOUR MILE CREEK WATERSHED

TABLE A1-1. ROW CROPS GROWN AND PESTICIDES USED IN FOUR MILE CREEK WATERSHED IN 1970 AND 1976-1980

Crop	Year	Watershed area %	Crop area fertilized %	Average fertilizer application N	P_2O_5 kg/ha	K_2O	Crop area pesticide treated herbicides %	insecticides %
Corn	1970	39	88	123	71	64	71	54
	1976	55	98	158	55	52	99	58
	1977	54	97	166	62	65	98	80
	1978	55	97	174	57	59	98	80
	1979	50	98	181	61	68	98	78
	1980	56	99	178	62	66	99	70
Soybeans	1970	16	4	17	76	77	75	
	1976	20	11	8	49	51	94	
	1977	24	23	7	58	83	95	
	1978	22	14	16	55	63	97	
	1979	30	26	4	52	71	99	
	1980	24	28	28	57	57	100	

TABLE A1-2. CROPS GROWN AND FERTILIZER APPLIED IN FOUR MILE CREEK WATERSHED (SITE 4)

Crop	Year	Total area ha	Fertilized area ha	Total N applied kg	Avg. N applied to fertilized area kg/ha	Total P_2O_5 applied kg	Avg. P_2O_5 applied to fertilized area kg/ha	Total K_2O applied kg	Avg. K_2O applied to fertilized area kg/ha
Corn	1979	2525	2464	446700	181	149600	61	168200	68
	1980	2813	2786	496826	178	171593	62	184726	66
Soybeans	1979	1515	389	1458	4	20240	52	27470	71
	1980	1218	340	9673	28	19280	57	19500	57
Oats	1979	114	10	435	44	435	44	871	87
	1980	153	16	585	36	998	62	898	55
Hay	1979	152	29	735	25	1361	47	1987	69
	1980	149	11	282	26	735	67	826	76
Pasture	1979	317	113	5579	49	2236	20	3080	27
	1980	315	67	2864	43	755	11	771	12
Grass*	1979	35	0						
	1980	8	0						
Other†	1979	397							
	1980	399							
Total	1979	5055	3005	454907		173872		201608	
	1980	5055	3220	510230		193361		206721	

*Government set-aside.

†Includes roads, farmyards, timber and waterways.

TABLE A1-3. CROPS GROWN AND FERTILIZER APPLIED - SITE 5

Crop	Year	Total area ha	Fertilized area ha	Total N applied kg	Avg. N applied to fertilized area kg/ha	Total P_2O_5 applied kg	Avg. P_2O_5 applied to fertilized area kg/ha	Total K_2O applied kg	Avg. K_2O applied to fertilized area kg/ha
Corn	1979	1943	1912	370500	194	122600	64	142700	75
	1980	2116	2102	396593	189	138263	66	155627	74
Soybeans	1979	1149	389	1458	4	20240	52	27470	71
	1980	958	327	9673	30	18736	57	18956	58
Oats	1979	61	10	435	44	435	44	871	87
	1980	89	16	585	36	998	62	898	55
Hay	1979	111	29	735	25	1361	47	1987	69
	1980	90	11	282	26	735	67	826	76
Pasture	1979	74	57	2785	49	445	8	1424	25
	1980	109	43	1866	43	191	4	254	6
Grass*	1979	19	0						
	1980	5	0						
Other†	1979	218							
	1980	208							
Total	1979	3575	2397	375913		145100		174500	
	1980	3575	2499	408999		158923		176561	

*Government set-aside.

†Includes roads, farmyards, timber and waterways.

TABLE A1-4. CROPS GROWN AND FERTILIZER APPLIED - SITE 6

Crop	Year	Total area ha	Fertilized area ha	Total N applied kg	Avg. N applied to fertilized area kg/ha	Total P_2O_5 applied kg	Avg. P_2O_5 applied to fertilized area kg/ha	Total K_2O applied kg	Avg. K_2O applied to fertilized area kg/ha
Corn	1979	167	144	24700	172	9956	69	10220	71
	1980	195	189	30436	161	13181	70	11748	62
Soybeans	1979	104	0						
	1980	62	0						
Oats	1979	19	0						
	1980	25	0						
Hay	1979	18	0						
	1980	28	0						
Pasture	1979	28	0						
	1980	25	11	114	10	292	26	381	34
Grass*	1979	0							
	1980	0							
Other†	1979	14	0						
	1980	10	0						
Total	1979	345	144	24700		9956		10220	
	1980	345	200	30550		13473		12129	

*Government set-aside.

†Includes roads, farmyards, timber and waterways.

TABLE A1-5. CROPS GROWN AND FERTILIZER APPLIED - SITE 7

Crop	Year	Total area ha	Fertilized area ha	Total N applied kg	Avg. N applied to fertilized area kg/ha	Total P_2O_5 applied kg	Avg. P_2O_5 applied to fertilized area kg/ha	Total K_2O applied kg	Avg. K_2O applied to fertilized area kg/ha
Corn	1979	101	101	19170	190	4664	46	4815	48
	1980	142	142	25381	178	8002	56	10113	71
Soybeans	1979	147	100	292	3	4305	43	8627	86
	1980	108	84	6229	74	2658	32	2803	33
Oats	1979	0							
	1980	11	0						
Hay	1979	28	0						
	1980	4	0						
Pasture	1979	0							
	1980	10	0						
Grass*	1979	0							
	1980	0							
Other†	1979	9	0						
	1980	9	0						
Total	1979	284	201	19462		8969		13442	
	1980	284	226	31610		10660		12916	

*Government set-aside.

†Includes roads, farmyards and waterways.

TABLE A1-6. CROPS GROWN AND FERTILIZER APPLIED - SITE 8

Crop	Year	Total area ha	Fertilized area ha	Total N applied kg	Avg. N applied to fertilized area kg/ha	Total P_2O_5 applied kg	Avg. P_2O_5 applied to fertilized area kg/ha	Total K_2O applied kg	Avg. K_2O applied to fertilized area kg/ha
Corn	1979	72	72	13090	182	4878	68	4858	67
	1980	78	78	14417	185	4473	57	4207	54
Soybeans	1979	54	19	0		1633	86	1429	75
	1980	44	6	0		510	84	340	56
Oats	1979	0							
	1980	3	3	83	26	218	67	290	90
Hay	1979	4	4	0		363	91	408	102
	1980	4	4	94	26	245	67	327	90
Pasture	1979	3	1	36	36	18	18	18	18
	1980	3	1	21	26	54	67	73	90
Grass*	1979	0							
	1980	0							
Other†	1979	17	0						
	1980	17	0						
Total	1979	149	96	13126		6892		6713	
	1980	149	92	14615		5500		5237	

*Government set-aside.

†Includes roads, farmyards and waterways.

TABLE A2-1. PESTICIDE USAGE IN FOUR MILE CREEK WATERSHED (SITE 4)

Crop	Year	Total area of crop ha	Number of herbicides applied					Number of insecticides applied		
			0	1	2	3	4	0	1	2
			Area of application ha					Area of application ha		
Corn	1979	2525	61	632	1100	673	59	553	1972	0
	1980	2813	19	460	1563	674	97	836	1977	0
Soybeans	1979	1515	13	164	1261	71	6			
	1980	1218	0	91	1046	45	36			

TABLE A2-3. PESTICIDES USED ON SOYBEANS IN FOUR MILE CREEK WATERSHED

Pesticide	Area applied ha		Total amount applied* kg active ingredient		Recommended rate of application kg/ha active ingredient
Herbicide	1979	1980	1979	1980	
Amiben	136	228	179	479	2.2
Basagran	147	229	136	237	1.1
Dual	0	24	0	27	1.0
Lasso	813	551	2414	1461	3.4
Lorox	15	0	17	0	1.1
Modown	121	23	185	44	2.2
Round-up	29	40	32	53	1.1
Sencor (Lexone)	1033	740	500	333	0.6
Tolban	15	11	13	12	0.8
Treflan	658	617	550	546	0.8
None	0	0	--	--	--

*When actual application rate was unknown, product recommendations were used for calculation of total amounts of herbicide applied. If the herbicide was used in combination with another, the rates of both were lowered.

TABLE A2-2. PESTICIDES USED ON CORN IN FOUR MILE CREEK WATERSHED (SITE 4)

Pesticide	Area applied ha		Total amount applied* kg active ingredient		Recommended rate of application kg/ha active ingredient
Herbicide	1979	1980	1979	1980	
Atrazine	1021	1181	1423	2005	3.4
Banvel	166	443	67	173	0.6
Bladex	995	1060	1740	2109	4.5
Dual	0	6	0	7	1.0
Eradicane	30	80	141	150	5.6
Lasso	1286	1382	3192	3721	3.4
Ramrod	85	78	161	350	4.5
Sutan	895	1006	3769	4250	4.5
2,4-D	611	772	263	409	0.5
None	--	19	--	--	--
Insecticide					
Counter	1049	1445	1237	1877	1.1
Dyfonate	228	263	273	332	1.1
Furadan	348	84	390	86	1.1
Lorsban	120	75	135	84	1.1
Mocap	32	26	36	38	1.1
Thimet	195	80	236	83	1.1
None	553	836	--	--	--

*When actual application rate was unknown, product recommendations were used for calculation of total amount of pesticide applied. If the pesticide was used in combination with another, the rates of both were lowered.

TABLE A2-4. PESTICIDES USED ON CORN - SITE 5

Pesticide	Area applied ha		Total amount applied kg active ingredient	
Herbicide	1979	1980	1979	1980
Atrazine	830	822	970	1272
Banvel	146	395	56	147
Bladex	811	870	1451	1738
Dual	0	6	0	7
Eradicane	0	36	0	68
Lasso	965	1057	2382	2959
Ramrod	59	53	103	245
Sutan	859	880	3635	3724
2,4-D	557	596	242	290
None	30	0	--	--
Insecticide				
Counter	905	1191	1074	1546
Dyfonate	148	121	173	167
Furadan	250	55	280	62
Lorsban	105	75	117	84
Mocap	26	20	29	29
Thimet	127	25	137	29
None	381	624	--	--

TABLE A2-5. PESTICIDES USED ON SOYBEANS - SITE 5

Pesticide	Area applied ha		Total amount applied kg active ingredient	
Herbicide	1979	1980	1979	1980
Amiben	100	202	117	453
Basagran	46	126	51	122
Dual	0	24	0	27
Lasso	659	476	1950	1289
Lorox	15	0	17	0
Modown	121	23	185	44
Round-up	18	40	20	53
Sencor (Lexone)	827	636	393	290
Tolban	15	11	13	12
Treflan	461	447	391	392
None	13	0	--	--

TABLE A2-6. PESTICIDES USED - SITE 6

Pesticide	Area applied ha		Total amount applied kg active ingredient	
Herbicide	1979	1980	1979	1980
corn				
Atrazine	69	116	151	294
Banvel	17	24	10	14
Bladex	22	46	36	89
Lasso	95	134	256	352
Sutan	28	51	108	192
2,4-D	43	61	18	68
None	22	9	--	--
Insecticide				
corn				
Counter	27	80	30	116
Dyfonate	28	73	31	89
Furadan	68	27	76	22
Lorsban	15	0	17	0
Thimet	22	0	25	0
None	7	15	--	--
Herbicide				
soybeans				
Amiben	11	0	19	0
Basagran	0	10	0	11
Lasso	83	9	304	25
Sencor (Lexone)	93	52	49	23
Treflan	21	53	15	47
None	0	0	--	--

TABLE A2-7. PESTICIDES USED - SITE 7

Pesticide	Area applied ha		Total amount applied kg active ingredient	
	1979	1980	1979	1980
Herbicide corn				
Banvel	0	69	0	30
Bladex	40	23	90	52
Lasso	67	142	181	433
Sutan	34	0	187	0
2,4-D	45	105	19	67
None	0	0	--	--
Insecticide corn				
Counter	17	68	19	77
Dyfonate	45	0	51	0
Furadan	27	0	30	0
None	12	74	--	--
Herbicide soybeans				
Amiben	22	65	25	146
Basagran	0	36	0	41
Lasso	77	108	269	332
Modown	10	0	17	0
Round-up	0	36	0	41
Sencor (Lexone)	114	0	60	21
Treflan	70	42 0	59	0
None	0	0	--	--

TABLE A2-8. PESTICIDES USED - SITE 8

Pesticide	Area applied ha		Total amount applied kg active ingredient	
	1979	1980	1979	1980
Herbicide corn				
Banvel	0	13	0	7
Bladex	16	20	36	45
Lasso	17	42	48	132
Ramrod	6	7	14	16
Sutan	49	29	230	164
2,4-D	50	36	26	15
None	0	0	--	--
Insecticide corn				
Counter	19	35	25	50
Furadan	30	0	34	0
None	22	43	--	--
Herbicide soybeans				
Lasso	15	30	34	87
Sencor (Lexone)	34	42	19	21
Treflan	37	13	32	11
None	0	0	--	--

TABLE A3-1. TILLAGE SYSTEMS AND CONSERVATION PRACTICES USED IN FOUR MILE CREEK WATERSHED (SITE 4)

Crop	Year	Total area ha	Primary tillage*						Conservation practice		
				Disk		Chisel					
			Moldboard plow ha	Soybean residue ha	Corn-stalks ha	Soybean residue ha	Corn-stalks ha	Minimum-till† ha	Contour ha	Contour strip crop ha	Terraced ha
Corn	1979	2525	566	726	346	204	653	30	279	64	54
	1980	2813	429	1090	530	176	549	38	409	47	90
Soybeans	1979	1515	693	132	267	26	370	27	132	74	0
	1980	1218	237	133	380	23	427	16	356	33	26
Oats	1979	114	0	18	96	0	0	0	0	8	0
	1980	153	0	57	86	7	2	0	0	0	10
Hay Pasture Grass§	1979	504	0	3	13	0	2	0	0	18	0
	1980	472	0	0	0	0	0	0	0	0	0
Total area	1979	4658	1259	879	722	230	1025	57	411	164	54
	1980	4656	666	1280	996	206	978	54	765	80	126

*Primary tillage was the main tillage method used by the farmer to bury the residue from the previous year's crop and prepare the soil for the crop to be planted.

†Minimum-till represented use of Buffalo-till planter. In 1980, it also included 10 ha no-till corn and 4 ha no-till soybeans.

§Hay and pasture required no tillage since they were normally established in the previous year. Most grass for government set-aside hectares required the same tillage as oats.

TABLE A3-2. TILLAGE SYSTEMS AND CONSERVATION PRACTICES USED - SITE 5

Crop	Year	Total area ha	Primary tillage*						Conservation practice		
				Disk		Chisel					
			Moldboard plow ha	Soybean residue ha	Corn-stalks ha	Soybean residue ha	Corn-stalks ha	Minimum-till† ha	Contour ha	Contour strip crop ha	Terraced ha
Corn	1979	1943	351	620	240	204	528	0	183	64	42
	1980	2116	322	825	346	149	467	10	309	47	76
Soybeans	1979	1149	539	76	137	26	370	0	108	74	0
	1980	958	197	110	270	23	355	0	313	33	18
Oats	1979	61	0	9	52	0	0	0	0	8	0
	1980	89	0	38	42	7	2	0	0	0	10
Hay Pasture Grass§	1979	204	0	3	13	0	2	0	0	18	0
	1980	204	0	0	0	0	0	0	0	0	0
Total area	1979	3357	890	708	442	230	900	0	291	164	42
	1980	3367	519	973	658	179	824	10	622	80	104

*Primary tillage was the main tillage method used by the farmer to bury the residue from the previous year's crop and prepare the soil for the crop to be planted.

†Represented 10 ha no-till corn.

§Hay and pasture required no tillage since they were normally established in the previous year. Most grass for government set-aside hectares required the same tillage preparation as oats.

TABLE A3-3. TILLAGE SYSTEMS AND CONSERVATION PRACTICES USED - SITE 6

Crop	Year	Total area ha	Primary tillage*						Conservation practice		
			Moldboard plow ha	Disk: Soybean residue ha	Disk: Corn-stalks ha	Chisel: Soybean residue ha	Chisel: Corn-stalks ha	Minimum-till ha	Contour ha	Contour strip crop ha	Terraced ha
Corn	1979	167	66	16	71	0	14	0	58	0	0
	1980	195	17	104	72	0	2	0	100	0	0
Soybeans	1979	104	22	0	82	0	0	0	0	0	0
	1980	62	0	0	62	0	0	0	0	0	0
Oats	1979	19	0	0	19	0	0	0	0	0	0
	1980	25	0	0	25	0	0	0	0	0	0
Hay Pasture Grass†	1979	46	0	0	0	0	0	0	0	0	0
	1980	53	0	0	0	0	0	0	0	0	0
Total area	1979	336	88	16	172	0	14	0	58	0	0
	1980	335	17	104	159	0	2	0	100	0	0

*Primary tillage was the main tillage method used by the farmer to bury the residue from the previous year's crop and prepare the soil for the crop to be planted.

†Hay and pasture required no tillage since they were normally established in the previous year. Most grass for government set-aside hectares required the same tillage preparation as oats.

TABLE A3-4. TILLAGE SYSTEMS AND CONSERVATION PRACTICES USED - SITE 7

Crop	Year	Total area ha	Primary tillage*						Conservation practice		
				Disk		Chisel					
			Moldboard plow ha	Soybean residue ha	Corn-stalks ha	Soybean residue ha	Corn-stalks ha	Minimum -till ha	Contour ha	Contour strip crop ha	Terraced ha
Corn	1979	101	5	75	0	0	21	0	0	0	0
	1980	142	3	84	18	20	18	0	53	0	28
Soybeans	1979	147	47	30	37	0	33	0	0	0	0
	1980	108	44	13	22	3	25	0	36	0	0
Oats	1979	0									
	1980	11									
Hay Pasture Grass†	1979	28									
	1980	17									
Total area	1979	276	52	105	37	0	54	0	0	0	0
	1980	278	47	97	40	23	43	0	89	0	28

*Primary tillage was the main tillage method used by the farmer to bury the residue from the previous year's crop and prepare the soil for the crop to be planted.

†Hay and pasture required no tillage since they were normally established in the previous year. Most grass for government set-aside hectares required the same tillage preparation as oats.

TABLE A3-5. TILLAGE SYSTEMS AND CONSERVATION PRACTICES USED - SITE 8

Crop	Year	Total area ha	Primary tillage*						Conservation practice		
			Moldboard plow ha	Disk: Soybean residue ha	Disk: Corn-stalks ha	Chisel: Soybean residue ha	Chisel: Corn-stalks ha	Minimum-till† ha	Contour ha	Contour strip crop ha	Terraced ha
Corn	1979	72	2	20	13	6	31	0	28	0	0
	1980	78	0	43	17	2	7	10	28	0	0
Soybeans	1979	54	9	0	25	2	18	0	12	0	0
	1980	42	4	0	0	0	38	0	0	0	0
Oats	1979	0									
	1980	3									
Hay Pasture} Grass§	1979	7									
	1980	6									
Total area	1979	133	11	20	38	8	49	0	40	0	0
	1980	129	4	43	17	2	45	10	28	0	0

*Primary tillage was the main tillage method used by the farmer to bury the residue from the previous year's crop and prepare the soil for the crop to be planted.

†Represented 10 ha no-till corn.

§Hay and pasture required no tillage since they were normally established in the previous year. Most grass for government set-aside hectares required the same tillage preparation as oats.

TABLE A4-1. LIVESTOCK INVENTORY OF THE FOUR MILE CREEK WATERSHED (SITE 4)

Year	Steers fed*	Pigs fed†	Chickens fed§	Cows and calves on pasture∞ animal units	Pasture area surveyed ha	Animal units on pasture animal units/ha/yr
1979	2460	9200	12000	837	317	2.6
1980	2420	9490	12000	824	315	2.6

*Steers fed include steers and heifers that were fed from approximately 225 kg body weight up to 450 kg in preparation for slaughter. The figure is an estimate of the number fed in the watershed on an annual basis.

†Most pigs were raised from farrow to finish in the watershed. The figure is an estimate of the number raised and finished on an annual basis.

§Chickens fed are those used in an egg production operation.

∞An animal unit is considered to be one cow with a 45 kg calf.

APPENDIX B

PRECIPITATION AND WEATHER MEASUREMENTS

TABLE B1-0. PRECIPITATION AT FOUR MILE CREEK WATERSHED AND NEARBY NOAA STATIONS, mm*

	ISU gages							NOAA stations			
Date	31	32	33	34	35	36	Watershed average	Traer	Grundy Center†	Marshall-town†	Toledo†
1979											
1/1			<1			0	<1	1	4	3	6
1/11			<1			3	2	4	2	5	5
1/13			9			9	9	17	8	10	11
1/18			8			7	8	12	8	10	8
1/20			<1			<1	1	0	1	T§	T
1/23			2			8	5	4	4	3	2
1/26			4			8	6	5	5	6	4
1/30			1			0	<1	0	T	T	<1
Jan.	31∞	31	26	31	31	36	31	44	31	37	37
2/2			0			0	0	0	2	T	0
2/7			4			5	4	4	3	4	3
2/20			3			4	3	4	2	6	5
2/23			0			0	0	4	2	T	2
Feb.	8	8	7	8	8	8	8	12	7	10	10
3/3			23			26	24	22	10	17	27
3/4			7			4	5	5	10	9	5
3/6			0			<1	<1	0	T	T	<1
3/18	I¶		11			10	10	8	14	12	5
3/22	5		6		I	4	5	3	0	0	0

*Precipitation during the months of December, January, February and March was in the form of snow or snow and rain mixed.

†Instruments at this station were read at 7:00 AM or 8:00 AM each day. Daily precipitation data at the station have been adjusted to correspond to the day on which precipitation actually occurred.

§T indicates an immeasurable trace of precipitation.

∞Precipitation data for periods when gages were inoperable were obtained by averaging the data from operating stations.

¶Gage installed.

TABLE B1-0 (continued).

Date	ISU gages						Watershed average	NOAA stations			
	31	32	33	34	35	36		Traer	Grundy Center	Marshall-town	Toledo
3/23/79	11		12		11	14	12	16	11	11	12
3/24	12		12		12	12	12	3	23	9	8
3/28	11		12		15	12	12	0	10	11	17
3/29	9		9		9	10	9	26	8	8	11
3/30	0		0		0	0	0	2	2	0	1
March	88	90	90	90	92	92	91	86	88	77	88
4/1	19		15		19	23	19	16	6	13	15
4/5	0		0		0	0	0	2	1	T	2
4/10	5		3		4	5	4	3	0	1	1
4/11	5		2		0	0	2	1	15	29	5
4/13		I		I							
4/16	0	0	0	0	0	0	0	0	T	3	2
4/19	14	18	20	19	21	20	19	23	18	19	17
4/20	47	36	36	40	33	39	38	35	37	38	36
4/25	15	18	14	15	16	18	16	14	17	14	16
4/29	2	2	2	2	2	2	2	3	2	5	4
April	107	99	92	102	96	107	101	96	95	124	97
5/2	24	24	26	27	26	26	25	28	33	26	23
5/8	1	<1	4	9	5	6	4	13	2	2	7
5/10	5	7	5	5	8	9	7	5	14	8	4
5/12	2	1	2	1	2	2	2	1	3	2	6
5/13	2	<1	2	1	2	1	1	2	3	T	2
5/18	7	8	7	8	8	7	8	17	18	10	12
5/19	0	0	1	<1	1	2	<1	1	0	0	0
5/26	6	8	6	6	10	10	8	10	9	3	18
5/29	2	6	8	5	14	8	7	5	2	0	0
5/30	4	1	<1	<1	<1	<1	1	0	8	T	2
May	52	57	60	64	76	72	64	83	93	50	75
6/4	11	7	17	20	27	38	20	20	8	0	2
6/5	0	0	0	0	0	0	0	<1	0	0	0

TABLE B1-0 (continued).

Date	ISU gages						Watershed average	NOAA stations			
	31	32	33	34	35	36		Traer	Grundy Center	Marshall-town	Toledo
6/7/79	1	<1	4	2	<1	1	2	<1	3	10	0
6/8	4	6	7	5	5	5	5	6	4	5	14
6/9	21	14	17	18	10	13	16	8	26	11	15
6/10	0	0	0	0	0	0	0	2	0	0	0
6/12	34	41	62	42	39	30	41	25	11	14	24
6/17	<1	1	0	1	2	2	1	10	20	3	0
6/18	7	14	11	12	11	14	11	<1	<1	0	0
6/19	11	11	11	11	10	11	11	14	14	8	10
6/26	3	4	1	2	<1	2	2	65	3	2	2
6/27	33	38	41	26	50	45	39	2	30	30	23
6/28	<1	<1	1	<1	4	3	2	0	1	0	0
June	127	138	172	142	160	166	151	153	120	83	90
7/3	51	47	79	59	97	108	73	102	37	18	33
7/4	0	0	0	0	0	0	0	<1	0	0	0
7/10	4	4	1	3	4	3	4	31	6	5	2
7/11	0	0	0	0	3	6	1	3	0	0	0
7/13	25	18	26	16	18	18	20	23	20	7	29
7/14	24	41	37	60	63	63	48	64	20	7	29
7/19	4	4	2	<1	2	1	2	0	8	0	<1
7/20	0	0	0	0	0	0	0	2	0	0	0
7/24	15	2	4	2	2	1	4	1	6	4	3
7/27	6	0	0	0	0	0	1	0	3	0	8
7/29	2	5	3	3	4	3	3	0	12	8	9
7/30	5	2	2	2	8	9	5	10	11	8	9
July	138	122	154	145	201	212	162	237	122	57	123
8/1	4	1	<1	<1	1	8	3	0	0	10	2
8/8	18	20	18	18	28	31	22	44	1	3	4
8/9	13	7	5	9	7	8	8	2	12	24	10
8/10	0	0	0	0	0	0	0	<1	0	0	0
8/13	<1	<1	1	0	<1	<1	<1	2	3	2	2
8/18	0	0	0	0	0	0	0	<1	0	0	0

TABLE B1-0 (continued).

Date	ISU gages						Watershed average	Traer	NOAA stations		
	31	32	33	34	35	36			Grundy Center	Marshall-town	Toledo
8/19/79	59	69	71	75	62	72	68	75	52	125	96
8/20	<1	2	2	4	3	2	2	3	0	0	0
8/21	29	25	28	31	32	36	30	33	15	25	32
8/22	4	4	4	1	5	11	5	4	34	3	3
8/26	2	2	4	<1	6	6	4	9	4	17	51
8/28	6	1	2	1	1	1	2	1	7	0	0
8/31	0	0	0	0	0	0	0	<1	0	0	0
Aug.	135	133	136	140	146	176	145	174	127	209	199
9/5	9	10	10	9	9	10	10	10	11	7	10
9/12	0	0	0	0	0	0	0	2	0	0	0
9/13	0	0	0	0	0	0	0	1	0	0	0
9/19	0	0	0	0	0	0	0	56	0	0	0
9/24	18	8	18	9	7	10	12	0	6	8	6
9/25	0	0	0	0	0	0	0	8	0	0	0
Sept.	27	19	29	19	17	20	22	78	16	15	16
10/1	6	4	8	6	8	7	7	4	6	5	10
10/3	2	2	3	2	3	3	3	2	3	3	3
10/11	4	2	2	4	2	2	3	1	2	<1	<1
10/18	36	16	15	11	9	12	16	15	14	10	11
10/19	1	2	2	1	1	2	2	1	0	0	0
10/21	12	12	9	5	20	20	13	11	50	59	60
10/22	68	71	65	72	75	69	70	64	38	22	13
10/23	1	<1	<1	<1	<1	<1	<1	0	0	0	0
10/31	17	13	11	11	11	11	12	0	16	21	7
Oct.	148	123	117	112	130	127	126	98	128	121	105
11/5	14	11	12	12	10	10	12	9	16	16	6
11/9	C×	C	2	C	1	1	1	0	0	0	0
11/12			2		2	2	2	3	6	4	6

×Gage closed

TABLE B1-0 (continued).

Date	ISU gages 31	32	33	34	35	36	Watershed average	Traer	NOAA stations Grundy Center	Marshall-town	Toledo
11/20/79			0		C	<1	<1	<1	4	3	5
11/21			18			15	16	14	10	10	6
11/27			C			5	5	0	0	0	0
11/28						6	6	0	2	0	2
Nov.	45	41	45	42	40	40	42	27	37	34	25
12/8						0	0	<1	0	0	0
12/22						8	8	18	14	7	10
12/23						8	8	2	14	7	10
Dec.	17	17	17	17	17	17	17	20	27	14	20
1979 total	922	878	945	912	1013	1072	958	1109	892	831	883
1980											
1/4			1			3	2	2	<1	2	<1
1/5			0			0	0	2	1	2	<1
1/6			10			10	10	1	6	4	2
1/7			0			0	0	<1	3	0	<1
1/8			3			2	3	2	0	1	<1
1/9			0			0	0	1	2	<1	<1
1/13			0			0	0	1	1	1	T
1/15			0			0	0	3	2	2	3
1/16			30			28	29	26	19	22	28
1/17			0			0	0	1	<1	<1	1
1/19			0			2	<1	2	T	2	2
1/23			0			2	1	1	2	2	T
1/24			0			0	0	1	2	<1	T
1/27			0			0	0	0	T	T	<1
1/30			2			2	2	2	2	2	3
Jan.	47	47	45	47	47	50	47	46	43	42	43
2/4			0			0	0	2	2	2	2
2/5			4			5	4	10	9	9	10

TABLE B1-0 (continued).

Date	ISU gages 31	32	33	34	35	36	Watershed average	Traer	NOAA stations Grundy Center	Marshall-town	Toledo
2/15/80			0			1	<1	<1	<1	<1	T
2/21			6			12	9	11	4	3	<1
2/24			0			0	0	6	5	4	3
2/25			8			10	9	8	6	2	4
2/26			0			<1	<1	0	0	0	0
2/28			0			0	0	<1	T	0	T
Feb.	23	23	18	23	23	28	23	38	25	20	19
3/4			16			10	13	15	8	0	3
3/5			0			0	0	0	0	4	0
3/13			4			6	5	8	6	5	4
3/16			0			0	0	0	<1	0	0
3/20			0			0	0	0	0	0	<1
3/28			0			0	0	<1	1	0	<1
3/29			0			0	0	3	4	2	1
3/30			0			0	0	0	<1	0	0
3/31			12			10	11	1	T	T	2
March	29	29	32	29	29	26	29	28	20	11	11
4/2	I	I		I	I			12	12	10	8
4/3	13	13	14	13	13	15	13	14	14	<1	9
4/4	0	0	0	0	0	0	0	0	0	12	0
4/5	0	0	0	0	0	0	0	0	0	0	<1
4/6	2	2	2	2	3	4	3	4	<1	0	0
4/7	0	0	0	0	0	0	0	0	6	3	1
4/8	2	2	2	2	1	1	2	0	T	<1	0
4/9	0	0	0	0	0	0	0	4	6	2	2
4/10	0	0	0	0	0	0	0	0	T	T	<1
4/12	0	0	0	0	0	0	0	0	0	0	<1
4/14	2	1	1	0	0	0	<1	0	0	0	0
4/17	0	0	0	0	0	0	0	0	<1	T	0
April	20	19	21	18	17	20	19	34	39	28	21

TABLE B1-O (continued).

Date	ISU gages 31	32	33	34	35	36	Watershed average	Traer$^{\phi}$	NOAA stations Grundy Center	Marshall-town	Toledo
5/10/80	3	2	4	2	4	5	3		8	3	6
5/12	3	2	1	1	1	1	2		13	T	T
5/14	<1	2	1	1	2	3	2		1	2	3
5/16	2	2	1	2	3	3	2		3	3	2
5/17	12	11	7	4	4	3	7		10	8	5
5/18	6	4	4	4	4	4	4		11	6	3
5/27	25	12	9	1	8	12	11		1	0	2
5/28	1	2	1	0	2	3	2		2	<1	<1
5/29	58	36	50	39	44	39	44		63	16	28
5/30	16	13	10	8	19	16	14		20	5	9
May	126	85	89	63	90	90	91		132	43	59
6/1	4	4	4	5	5	7	5		3	11	9
6/2	38	40	39	27	36	37	36		25	25	16
6/4	4	4	4	0	1	5	3		3	9	9
6/6	6	4	10	10	12	11	9		10	0	<1
6/7	9	6	6	6	8	5	7		7	0	<1
6/12	2	2	<1	<1	1	1	2		<1	2	0
6/13	18	19	20	21	25	24	21		29	86	58
6/14	5	5	4	4	6	6	5		7	20	14
6/15	10	10	16	18	14	11	13		18	15	12
6/18	3	6	5	9	5	5	6		4	3	8
June	100	100	109	102	114	112	106		105	172	125
7/4	0	0	0	0	0	0	0		2	2	0
7/5	0	0	0	0	0	0	0		1	3	2
7/7	0	0	0	0	0	0	0		<1	2	0
7/9	2	4	3	7	5	6	4		3	16	7
7/14	0	0	0	0	0	0	0		<1	0	0
7/15	0	0	0	0	0	0	0		<1	T	0

$^{\phi}$Data for this station are not available for May through December, 1980.

TABLE B1-0 (continued).

Date	ISU gages 31	32	33	34	35	36	Watershed average	Traer	NOAA stations Grundy Center	Marshall-town	Toledo
7/16/80	19	29	29	31	26	26	27		6	19	18
7/18	0	8	7	5	4	4	4		6	13	17
7/24	6	0	0	0	0	0	1		0	0	0
7/25	3	4	2	2	2	3	3		0	0	0
7/26	0	0	3	2	3	16	4		5	3	7
July	31	44	45	48	40	54	44		24	58	52
8/1	0	0	0	0	0	0	0		<1	<1	2
8/4	2	2	2	3	4	4	3		1	2	7
8/6	32	47	58	88	135	124	81		26	2	T
8/8	1	1	1	<1	0	6	2		2	2	2
8/9	16	14	15	14	18	13	15		18	20	12
8/10	6	14	14	18	13	22	15		17	11	11
8/11	23	25	22	29	17	23	23		27	17	12
8/14	0	0	0	0	0	0	0		<1	0	0
8/16	36	40	43	41	44	54	43		37	41	59
8/17	<1	2	2	2	2	2	2		2	2	2
8/19	1	7	7	8	7	9	6		<1	0	0
8/21	0	0	0	0	0	0	0		<1	0	0
8/28	1	1	1	<1	0	0	<1		<1	<1	0
8/30	12	2	2	4	2	2	4		4	8	8
8/31	2	2	2	2	2	3	2		3	1	4
Aug.	134	158	170	211	245	263	197		139	107	120
9/1	0	0	0	4	6	10	4		1	4	<1
9/4	24	32	27	29	31	33	29		20	39	26
9/6	8	4	10	13	20	20	12		20	2	32
9/9	10	5	11	5	5	6	7		9	0	3
9/12	1	15	17	14	9	6	10		12	12	33
9/13	5	2	2	5	6	5	4		4	5	12
9/15	0	0	0	0	0	0	0		<1	0	0
9/16	0	0	0	0	0	0	0		1	0	0

TABLE B1-0 (continued).

Date	ISU gages 31	32	33	34	35	36	Watershed average	Traer	NOAA stations Grundy Center	Marshall-town	Toledo
9/17/80	0	0	0	0	0	0	0		2	<1	0
9/20	10	10	9	9	8	9	9		21	4	1
9/21	5	2	8	5	8	10	6		6	2	0
9/23	0	0	0	0	0	0	0		2	0	0
Sept.	62	70	84	84	93	99	82		99	68	108
10/4	0	0	0	0	0	0	0		<1	T	0
10/14	0	0	0	0	0	0	0		<1	0	0
10/15	<1	0	0	0	0	1	<1		<1	<1	<1
10/16	<1	13	19	25	20	<1	13		12	12	8
10/17	5	0	0	0	0	21	4		4	4	3
10/23	13	14	13	14	15	18	14		17	17	13
10/24	11	11	11	12	13	16	12		14	15	11
10/27	1	1	1	1	1	1	1		1	5	6
Oct.	32	39	44	53	50	59	46		49	53	41
11/4	0	0	0	0	0	0	0		<1	T	0
11/11	C	C	C	C	C	C					
11/14									10	7	7
11/23									0	T	2
Nov.	9	9	9	9	9	9	9		11	7	9
12/2									6	3	5
12/7									<1	T	2
12/8									4	0	12
12/11									<1	T	T
12/24									2	0	1
12/29									<1	T	0
Dec.	12	12	12	12	12	12	12		13	3	20
1980 total	618	627	670	690	760	815	697		699	613	630

TABLE B1- 1. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1979 GAGE 31

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
31	3/22/79			NO DATA	0.0	0.0	0.0
31	3/22/79			NO DATA	5.1	5.1	5.1
31	3/23/79			NO DATA	0.0	0.0	5.1
31	3/23/79			NO DATA	5.1	5.1	10.2
31	3/23/79			NO DATA	0.0	5.1	10.2
31	3/23/79			NO DATA	6.1	11.2	16.3
31	3/24/79			SNOW	0.0	0.0	16.3
31	3/24/79			SNOW	11.7	11.7	27.9
31	3/28/79			NO DATA	0.0	0.0	27.9
31	3/28/79			NO DATA	10.7	10.7	38.6
31	3/29/79			NO DATA	0.0	0.0	38.6
31	3/29/79			NO DATA	8.9	8.9	47.5
31	4/ 1/79			SNOW	0.0	0.0	47.5
31	4/ 1/79			SNOW	19.3	19.3	66.8
31	4/10/79			NO DATA	0.0	0.0	66.8
31	4/10/79			NO DATA	5.1	5.1	71.9
31	4/11/79			NO DATA	0.0	0.0	71.9
31	4/11/79			NO DATA	4.8	4.8	76.7
31	4/19/79	6	14	0.0	0.0	0.0	76.7
31	4/19/79	6	34	5.5	1.8	1.8	78.5
31	4/19/79	6	54	2.4	2.6	2.6	79.3
31	4/19/79	7	54	0.3	2.9	2.9	79.6
31	4/19/79	8	11	0.9	3.1	3.1	79.8
31	4/19/79	8	23	2.6	3.7	3.7	80.4
31	4/19/79	8	38	1.0	3.9	3.9	80.6
31	4/19/79	9	4	1.8	4.7	4.7	81.4
31	4/19/79	9	34	1.0	5.2	5.2	81.9
31	4/19/79	9	44	3.1	5.8	5.8	82.5
31	4/19/79	10	39	0.6	6.3	6.3	83.0
31	4/19/79	10	50	1.4	6.5	6.5	83.2
31	4/19/79	10	52	23.6	7.3	7.3	84.0
31	4/19/79	11	2	6.3	8.4	8.4	85.1
31	4/19/79	12	0	0.3	8.6	8.6	85.3
31	4/19/79	12	20	1.6	9.2	9.2	85.9
31	4/19/79	12	31	1.4	9.4	9.4	86.1
31	4/19/79	12	42	5.7	10.5	10.5	87.2
31	4/19/79	12	44	39.3	11.8	11.8	88.5
31	4/19/79	12	49	9.4	12.6	12.6	89.3
31	4/19/79	12	59	3.1	13.1	13.1	89.8
31	4/19/79	13	20	0.7	13.3	13.3	90.1
31	4/19/79	13	24	3.9	13.6	13.6	90.3
31	4/19/79	16	0	0.1	13.9	13.9	90.6
31	4/20/79	2	20	0.0	13.9	0.0	90.6
31	4/20/79	3	21	0.5	14.4	0.5	91.1
31	4/20/79	3	29	2.0	14.7	0.8	91.4
31	4/20/79	3	34	25.1	16.7	2.9	93.5
31	4/20/79	3	37	5.2	17.0	3.1	93.7
31	4/20/79	3	46	1.7	17.3	3.4	94.0
31	4/20/79	3	48	62.8	19.4	5.5	96.1
31	4/20/79	3	54	2.6	19.6	5.8	96.3
31	4/20/79	4	2	2.0	19.9	6.0	96.6
31	4/20/79	4	5	47.1	22.2	8.4	98.9
31	4/20/79	4	12	9.0	23.3	9.4	100.0
31	4/20/79	4	14	7.8	23.5	9.7	100.3
31	4/20/79	4	29	1.0	23.8	9.9	100.5
31	4/20/79	4	31	86.3	26.7	12.8	103.4
31	4/20/79	4	33	70.7	29.0	15.2	105.8
31	4/20/79	4	39	5.2	29.6	15.7	106.3
31	4/20/79	5	37	0.3	29.8	16.0	106.5
31	4/20/79	5	41	15.7	30.9	17.0	107.6
31	4/20/79	5	59	1.7	31.4	17.5	108.1
31	4/20/79	6	4	6.3	31.9	18.1	108.6
31	4/20/79	6	9	9.4	32.7	18.8	109.4
31	4/20/79	6	16	2.2	33.0	19.1	109.7
31	4/20/79	6	23	6.7	33.8	19.9	110.5
31	4/20/79	6	26	15.7	34.5	20.7	111.2
31	4/20/79	6	44	1.7	35.1	21.2	111.8
31	4/20/79	7	32	0.3	35.3	21.5	112.0
31	4/20/79	7	34	47.1	36.9	23.0	113.6
31	4/20/79	7	37	47.1	39.2	25.4	116.0
31	4/20/79	7	42	3.1	39.5	25.6	116.2
31	4/20/79	8	40	0.3	39.8	25.9	116.5
31	4/20/79	8	46	5.2	40.3	26.4	117.0
31	4/20/79	8	49	41.9	42.4	28.5	119.1
31	4/20/79	8	54	12.6	43.4	29.6	120.1
31	4/20/79	9	1	6.7	44.2	30.4	120.9
31	4/20/79	9	8	2.2	44.5	30.6	121.2
31	4/20/79	9	26	4.4	45.8	31.9	122.5
31	4/20/79	9	45	2.5	46.6	32.7	123.3
31	4/20/79	10	0	5.2	47.9	34.0	124.6
31	4/20/79	10	47	1.7	49.2	35.3	125.9
31	4/20/79	10	50	20.9	50.2	36.4	126.9
31	4/20/79	10	53	15.7	51.0	37.2	127.7
31	4/20/79	11	8	2.1	51.5	37.7	128.3
31	4/20/79	11	34	1.2	52.1	38.2	128.8
31	4/20/79	12	22	0.3	52.3	38.5	129.0
31	4/20/79	12	33	10.0	54.2	40.3	130.9
31	4/20/79	12	42	14.0	56.3	42.4	133.0
31	4/20/79	13	13	7.1	59.9	46.1	136.6
31	4/20/79	13	34	2.2	60.7	46.8	137.4
31	4/25/79	9	44	0.0	0.0	0.0	137.4
31	4/25/79	9	47	21.0	1.1	1.1	138.5
31	4/25/79	10	21	2.3	2.4	2.4	139.8
31	4/25/79	10	50	8.7	6.6	6.6	144.0

TABLE B1- 1. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
31	4/25/79	11	5	4.2	7.6	7.6	145.0
31	4/25/79	12	5	0.8	8.4	8.4	145.8
31	4/25/79	14	45	0.1	8.7	8.7	146.1
31	4/25/79	15	1	2.0	9.2	9.2	146.6
31	4/25/79	15	14	2.4	9.7	9.7	147.1
31	4/25/79	15	25	7.2	11.0	11.0	148.4
31	4/25/79	15	40	2.1	11.6	11.6	149.0
31	4/25/79	16	28	1.3	12.6	12.6	150.0
31	4/25/79	16	33	9.5	13.4	13.4	150.8
31	4/25/79	16	40	2.3	13.7	13.7	151.1
31	4/25/79	17	0	4.7	15.2	15.2	152.7
31	4/29/79			NO DATA	0.0	0.0	152.7
31	4/29/79			NO DATA	2.3	2.3	154.9
31	5/ 2/79	8	15	0.0	0.0	0.0	154.9
31	5/ 2/79	8	50	1.3	0.8	0.8	155.7
31	5/ 2/79	9	24	0.5	1.0	1.0	156.0
31	5/ 2/79	9	51	1.7	1.8	1.8	156.8
31	5/ 2/79	10	0	3.5	2.4	2.4	157.3
31	5/ 2/79	10	13	3.6	3.1	3.1	158.1
31	5/ 2/79	10	20	4.5	3.7	3.7	158.6
31	5/ 2/79	10	45	0.6	3.9	3.9	158.9
31	5/ 2/79	11	30	1.7	5.2	5.2	160.2
31	5/ 2/79	11	45	3.1	6.0	6.0	161.0
31	5/ 2/79	12	22	3.4	8.1	8.1	163.1
31	5/ 2/79	12	40	5.2	9.7	9.7	164.6
31	5/ 2/79	13	10	3.1	11.3	11.3	166.2
31	5/ 2/79	13	24	2.2	11.8	11.8	166.7
31	5/ 2/79	14	10	5.1	15.7	15.7	170.7
31	5/ 2/79	14	30	2.4	16.5	16.5	171.5
31	5/ 2/79	14	50	3.1	17.6	17.6	172.5
31	5/ 2/79	15	23	1.9	18.6	18.6	173.6
31	5/ 2/79	15	44	0.7	18.9	18.9	173.8
31	5/ 2/79	16	18	2.3	20.2	20.2	175.1
31	5/ 2/79	17	0	1.1	21.0	21.0	175.9
31	5/ 2/79	17	30	1.6	21.8	21.8	176.7
31	5/ 2/79	18	0	1.0	22.3	22.3	177.2
31	5/ 2/79	18	20	0.8	22.6	22.6	177.5
31	5/ 2/79	19	30	0.9	23.6	23.6	178.6
31	5/ 8/79			NO DATA	0.0	0.0	178.6
31	5/ 8/79			NO DATA	1.0	1.0	179.6
31	5/10/79			NO DATA	0.0	0.0	179.6
31	5/10/79			NO DATA	5.1	5.1	184.7
31	5/12/79			NO DATA	0.0	0.0	184.7
31	5/12/79			NO DATA	1.8	1.8	186.4
31	5/13/79			NO DATA	0.0	0.0	186.4
31	5/13/79			NO DATA	2.0	2.0	188.5
31	5/18/79	18	0	0.0	0.0	0.0	188.5
31	5/18/79	18	31	1.2	0.6	0.6	189.1
31	5/18/79	18	34	6.0	0.9	0.9	189.4
31	5/18/79	18	44	3.6	1.5	1.5	190.0
31	5/18/79	19	11	2.0	2.4	2.4	190.9
31	5/18/79	20	57	0.2	2.7	2.7	191.1
31	5/18/79	21	32	0.5	3.0	3.0	191.4
31	5/18/79	21	39	2.6	3.3	3.3	191.7
31	5/18/79	22	17	0.9	3.9	3.9	192.3
31	5/18/79	22	41	1.5	4.5	4.5	192.9
31	5/18/79	23	31	0.4	4.8	4.8	193.2
31	5/18/79	23	37	11.9	6.0	6.0	194.4
31	5/18/79	23	47	5.4	6.9	6.9	195.3
31	5/26/79	7	0	0.0	0.0	0.0	195.3
31	5/26/79	9	7	0.3	0.7	0.7	196.1
31	5/26/79	9	55	0.6	1.2	1.2	196.5
31	5/26/79	10	0	2.9	1.5	1.5	196.8
31	5/26/79	17	48	0.0	1.5	1.5	196.8
31	5/26/79	17	52	25.6	3.2	3.2	198.5
31	5/26/79	18	5	9.0	5.1	5.1	200.5
31	5/26/79	18	20	4.9	6.3	6.3	201.7
31	5/29/79			NO DATA	0.0	0.0	201.7
31	5/29/79			NO DATA	2.0	2.0	203.7
31	5/30/79			NO DATA	0.0	0.0	203.7
31	5/30/79			NO DATA	3.8	3.8	207.5
31	6/ 4/79	10	25	0.0	0.0	0.0	207.5
31	6/ 4/79	11	25	1.3	1.3	1.3	208.8
31	6/ 4/79	18	42	0.0	1.3	1.3	208.8
31	6/ 4/79	18	43	76.2	2.5	2.5	210.1
31	6/ 4/79	18	44	152.4	5.1	5.1	212.6
31	6/ 4/79	18	45	30.5	5.6	5.6	213.1
31	6/ 4/79	18	46	45.7	6.3	6.3	213.9
31	6/ 4/79	18	50	64.8	10.7	10.7	218.2
31	6/ 4/79	19	0	4.6	11.4	11.4	218.9
31	6/ 7/79			NO DATA	0.0	0.0	218.9
31	6/ 7/79			NO DATA	1.3	1.3	220.2
31	6/ 8/79			NO DATA	0.0	0.0	220.2
31	6/ 8/79			NO DATA	3.8	3.8	224.0
31	6/ 9/79	6	51	0.0	0.0	0.0	224.0
31	6/ 9/79	6	54	17.2	0.9	0.9	224.9
31	6/ 9/79	8	5	0.0	0.9	0.9	224.9
31	6/ 9/79	8	7	17.2	1.4	1.4	225.5
31	6/ 9/79	8	10	63.1	4.6	4.6	228.6
31	6/ 9/79	8	14	12.9	5.4	5.4	229.5
31	6/ 9/79	8	38	0.7	5.7	5.7	229.8

TABLE B1- 1. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
31	6/ 9/79	9	5	1.3	6.3	6.3	230.3
31	6/ 9/79	9	13	12.9	8.0	8.0	232.0
31	6/ 9/79	10	15	0.6	8.6	8.6	232.6
31	6/ 9/79	10	40	3.4	10.0	10.0	234.1
31	6/ 9/79	10	48	4.3	10.6	10.6	234.6
31	6/ 9/79	11	1	6.6	12.0	12.0	236.1
31	6/ 9/79	11	9	21.5	14.9	14.9	238.9
31	6/ 9/79	11	12	34.4	16.6	16.6	240.6
31	6/ 9/79	11	24	4.3	17.5	17.5	241.5
31	6/ 9/79	11	28	21.5	18.9	18.9	242.9
31	6/ 9/79	12	8	1.7	20.1	20.1	244.1
31	6/ 9/79			NO DATA	0.0	20.1	244.1
31	6/ 9/79			NO DATA	1.3	21.3	245.4
31	6/12/79	17	33	0.0	0.0	0.0	245.4
31	6/12/79	17	40	8.9	1.0	1.0	246.4
31	6/12/79	17	51	1.4	1.3	1.3	246.7
31	6/12/79	17	58	15.6	3.1	3.1	248.5
31	6/12/79	18	0	187.1	9.4	9.4	254.7
31	6/12/79	18	2	117.0	13.3	13.3	258.6
31	6/12/79	18	8	111.8	24.4	24.4	269.8
31	6/12/79	18	14	23.4	26.8	26.8	272.1
31	6/12/79	18	23	10.4	28.3	28.3	273.7
31	6/12/79	18	40	1.8	28.8	28.8	274.2
31	6/12/79	19	14	0.9	29.4	29.4	274.7
31	6/12/79	20	40	0.5	30.1	30.1	275.5
31	6/12/79	21	0	1.6	30.7	30.7	276.0
31	6/12/79	21	20	1.6	31.2	31.2	276.5
31	6/12/79	22	18	0.5	31.7	31.7	277.1
31	6/12/79	22	23	12.5	32.7	32.7	278.1
31	6/12/79	22	35	3.9	33.5	33.5	278.9
31	6/17/79	20	35	0.0	0.0	0.0	278.9
31	6/17/79	21	40	0.8	0.8	0.8	279.7
31	6/18/79	2	28	0.1	1.1	0.3	280.0
31	6/18/79	2	32	4.1	1.4	0.5	280.2
31	6/18/79	6	0	0.1	1.6	0.8	280.5
31	6/18/79	6	13	3.8	2.4	1.6	281.3
31	6/18/79	6	24	7.4	3.8	3.0	282.7
31	6/18/79	6	30	16.3	5.4	4.6	284.3
31	6/18/79	6	33	0.0	5.4	4.6	284.3
31	6/18/79	6	37	16.3	6.5	5.7	285.4
31	6/18/79	7	10	2.0	7.6	6.8	286.5
31	6/19/79	21	42	0.0	0.0	0.0	286.5
31	6/19/79	21	48	2.7	0.3	0.3	286.8
31	6/19/79	21	50	31.9	1.3	1.3	287.8
31	6/19/79	21	54	8.0	1.9	1.9	288.4
31	6/19/79	21	58	35.9	4.3	4.3	290.8
31	6/19/79	22	3	6.4	4.8	4.8	291.3
31	6/19/79	22	7	59.9	8.8	8.8	295.3
31	6/19/79	22	10	10.6	9.3	9.3	295.8
31	6/19/79	22	20	1.6	9.6	9.6	296.1
31	6/19/79	22	24	4.0	9.8	9.8	296.3
31	6/19/79	22	29	3.2	10.1	10.1	296.6
31	6/19/79	22	32	16.0	10.9	10.9	297.4
31	6/19/79	22	52	0.8	11.2	11.2	297.7
31	6/26/79	23	52	0.0	0.0	0.0	297.7
31	6/26/79	23	59	22.1	2.6	2.6	300.3
31	6/27/79	0	1	115.9	6.4	3.9	304.1
31	6/27/79	0	7	85.0	14.9	12.4	312.6
31	6/27/79	0	14	59.6	21.9	19.3	319.6
31	6/27/79	0	20	18.0	23.7	21.1	321.4
31	6/27/79	0	24	50.2	27.1	24.5	324.7
31	6/27/79	0	29	21.6	28.9	26.3	326.5
31	6/27/79	0	35	46.4	33.5	30.9	331.2
31	6/27/79	0	40	9.3	34.3	31.7	331.9
31	6/27/79	0	49	1.7	34.5	31.9	332.2
31	6/27/79	1	0	4.2	35.3	32.7	333.0
31	6/27/79	1	17	1.8	35.8	33.2	333.5
31	6/28/79			NO DATA	0.0	0.0	333.5
31	6/28/79			NO DATA	0.8	0.8	334.3
31	7/ 3/79	7	31	0.0	0.0	0.0	334.3
31	7/ 3/79	7	32	77.0	1.3	1.3	335.5
31	7/ 3/79	7	38	25.7	3.9	3.9	338.1
31	7/ 3/79	7	45	77.0	12.8	12.8	347.1
31	7/ 3/79	7	51	64.2	19.3	19.3	353.5
31	7/ 3/79	7	57	25.7	21.8	21.8	356.1
31	7/ 3/79	8	2	15.4	23.1	23.1	357.4
31	7/ 3/79	8	26	1.3	23.6	23.6	357.9
31	7/ 3/79	8	32	5.1	24.1	24.1	358.4
31	7/ 3/79	8	38	15.4	25.7	25.7	359.9
31	7/ 3/79	8	39	77.0	27.0	27.0	361.2
31	7/ 3/79	8	44	15.4	28.3	28.3	362.5
31	7/ 3/79	8	48	3.9	28.5	28.5	362.8
31	7/ 3/79	8	53	9.2	29.3	29.3	363.5
31	7/ 3/79	8	58	3.1	29.5	29.5	363.8
31	7/ 3/79	9	3	12.3	30.6	30.6	364.8
31	7/ 3/79	9	9	2.6	30.8	30.8	365.1
31	7/ 3/79	9	15	20.5	32.9	32.9	367.1
31	7/ 3/79	9	19	46.2	36.0	36.0	370.2
31	7/ 3/79	9	25	38.5	39.8	39.8	374.1
31	7/ 3/79	9	31	51.4	44.9	44.9	379.2
31	7/ 3/79	9	35	7.7	45.5	45.5	379.7
31	7/ 3/79	10	10	1.3	46.2	46.2	380.5
31	7/ 3/79			NO DATA	0.0	46.2	380.5
31	7/ 3/79			NO DATA	5.1	51.3	385.6
31	7/10/79			NO DATA	0.0	0.0	385.6

TABLE B1- 1. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
31	7/10/79			NO DATA	3.6	3.6	389.1
31	7/13/79	9	36	0.0	0.0	0.0	389.1
31	7/13/79	9	40	59.0	3.9	3.9	393.0
31	7/13/79	9	42	78.6	6.6	6.6	395.7
31	7/13/79	9	48	15.7	8.1	8.1	397.2
31	7/13/79	9	57	29.7	12.6	12.6	401.7
31	7/13/79	10	4	27.0	15.7	15.7	404.8
31	7/13/79	10	12	13.8	17.6	17.6	406.7
31	7/13/79	10	16	7.9	18.1	18.1	407.2
31	7/13/79	19	50	0.0	18.3	18.3	407.5
31	7/13/79	19	53	52.4	21.0	21.0	410.1
31	7/13/79	20	4	17.2	24.1	24.1	413.2
31	7/13/79	22	55	0.1	24.4	24.4	413.5
31	7/13/79	23	1	7.9	25.2	25.2	414.3
31	7/13/79	23	43	0.4	25.4	25.4	414.5
31	7/14/79	0	1	0.9	25.7	0.3	414.8
31	7/14/79	0	38	0.4	25.9	0.5	415.1
31	7/14/79	0	44	41.9	30.1	4.7	419.2
31	7/14/79	0	52	19.7	32.8	7.3	421.9
31	7/14/79	0	53	94.3	34.3	8.9	423.4
31	7/14/79	0	58	6.3	34.8	9.4	424.0
31	7/14/79	1	2	27.5	36.7	11.3	425.8
31	7/14/79	1	5	104.8	41.9	16.5	431.0
31	7/14/79	1	10	9.4	42.7	17.3	431.8
31	7/14/79	1	20	3.1	43.2	17.8	432.3
31	7/14/79	1	26	18.3	45.1	19.7	434.2
31	7/14/79	1	35	5.2	45.9	20.4	435.0
31	7/14/79	1	42	15.7	47.7	22.3	436.8
31	7/14/79	2	36	0.9	48.5	23.1	437.6
31	7/14/79	2	44	5.9	49.3	23.8	438.4
31	7/14/79	3	20	0.4	49.5	24.1	438.6
31	7/14/79	4	15	0.3	49.8	24.4	438.9
31	7/19/79			NO DATA	0.0	0.0	438.9
31	7/19/79			NO DATA	3.8	3.8	442.7
31	7/24/79	5	18	0.0	0.0	0.0	442.7
31	7/24/79	5	21	5.1	0.3	0.3	443.0
31	7/24/79	5	24	55.9	3.0	3.0	445.8
31	7/24/79	5	30	55.9	8.6	8.6	451.3
31	7/24/79	8	40	0.1	8.9	8.9	451.6
31	7/24/79	8	52	24.1	13.7	13.7	456.4
31	7/24/79	8	59	4.4	14.2	14.2	456.9
31	7/24/79	9	32	0.5	14.5	14.5	457.2
31	7/24/79	9	37	9.1	15.2	15.2	457.9
31	7/27/79			NO DATA	0.0	0.0	457.9
31	7/27/79			NO DATA	6.3	6.3	464.3
31	7/29/79	18	10	0.0	0.0	0.0	464.3
31	7/29/79	18	24	3.9	0.9	0.9	465.2
31	7/29/79	20	4	0.2	1.2	1.2	465.5
31	7/29/79	20	9	3.7	1.5	1.5	465.8
31	7/29/79	20	39	1.8	2.4	2.4	466.7
31	7/30/79	1	36	0.1	3.0	0.6	467.3
31	7/30/79	1	44	2.3	3.4	0.9	467.6
31	7/30/79	2	20	0.5	3.7	1.2	467.9
31	7/30/79	2	24	27.4	5.5	3.0	469.8
31	7/30/79	3	59	0.2	5.8	3.4	470.1
31	7/30/79	4	4	11.0	6.7	4.3	471.0
31	7/30/79	4	24	0.0	6.7	4.3	471.0
31	7/30/79	4	28	9.1	7.3	4.9	471.6
31	7/30/79	4	34	3.0	7.6	5.2	471.9
31	8/ 1/79			NO DATA	0.0	0.0	471.9
31	8/ 1/79			NO DATA	3.8	3.9	475.7
31	8/ 8/79	19	57	0.0	0.0	0.0	475.7
31	8/ 8/79	20	7	22.9	3.8	3.8	479.5
31	8/ 8/79	20	14	54.4	10.2	10.2	485.9
31	8/ 8/79	20	16	129.5	14.5	14.5	490.2
31	8/ 8/79	20	44	1.6	15.2	15.2	491.0
31	8/ 8/79	21	25	0.4	15.5	15.5	491.2
31	8/ 8/79	21	29	26.7	17.3	17.3	493.0
31	8/ 8/79	21	40	2.8	17.8	17.8	493.5
31	8/ 9/79	20	6	0.0	0.0	0.0	493.5
31	8/ 9/79	20	10	24.8	1.7	1.7	495.2
31	8/ 9/79	20	12	99.4	5.0	5.0	498.5
31	8/ 9/79	20	18	44.2	9.4	9.4	502.9
31	8/ 9/79	20	22	37.3	11.9	11.9	505.4
31	8/ 9/79	20	30	6.2	12.7	12.7	506.2
31	8/13/79			NO DATA	0.0	0.0	506.2
31	8/13/79			NO DATA	0.3	0.3	506.5
31	8/19/79	2	24	0.0	0.0	0.0	506.5
31	8/19/79	2	25	34.4	0.6	0.6	507.0
31	8/19/79	2	28	23.0	1.7	1.7	508.2
31	8/19/79	2	33	27.6	4.0	4.0	510.5
31	8/19/79	2	36	11.5	4.6	4.6	511.0
31	8/19/79	2	46	6.9	5.7	5.7	512.2
31	8/19/79	2	53	2.5	6.0	6.0	512.5
31	8/19/79	3	3	5.2	6.9	6.9	513.3
31	8/19/79	3	13	5.2	7.7	7.7	514.2
31	8/19/79	3	31	3.8	8.9	8.9	515.3
31	8/19/79	3	37	5.7	9.5	9.5	515.9
31	8/19/79	3	53	5.4	10.9	10.9	517.4
31	8/19/79	4	3	3.4	11.5	11.5	517.9
31	8/19/79	5	13	0.5	12.1	12.1	518.5
31	8/19/79	5	17	60.3	16.1	16.1	522.5
31	8/19/79	5	20	28.7	17.5	17.5	524.0
31	8/19/79	5	32	4.3	18.4	18.4	524.8

TABLE B1- 1. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
31	8/19/79	5	40	90.4	30.4	30.4	536.9
31	8/19/79	5	50	8.6	31.9	31.9	538.3
31	8/19/79	5	52	25.8	32.7	32.7	539.2
31	8/19/79	5	54	60.3	34.7	34.7	541.2
31	8/19/79	5	59	20.7	36.4	36.4	542.9
31	8/19/79	6	11	12.9	39.0	39.0	545.5
31	8/19/79	6	18	12.3	40.5	40.5	546.9
31	8/19/79	6	23	6.9	41.0	41.0	547.5
31	8/19/79	6	28	13.8	42.2	42.2	548.6
31	8/19/79	6	44	2.2	42.8	42.8	549.2
31	8/19/79	6	52	8.6	43.9	43.9	550.4
31	8/19/79	7	3	1.6	44.2	44.2	550.6
31	8/19/79	20	22	0.0	0.0	44.2	550.6
31	8/19/79	20	43	4.9	1.7	45.9	552.4
31	8/19/79	21	1	5.7	3.4	47.6	554.1
31	8/19/79	21	23	1.6	4.0	48.2	554.7
31	8/19/79	21	34	1.6	4.3	48.5	554.9
31	8/19/79	21	39	10.3	5.2	49.3	555.8
31	8/19/79	21	53	3.7	6.0	50.2	556.7
31	8/19/79	22	8	1.1	6.3	50.5	556.9
31	8/19/79	22	15	4.9	6.9	51.1	557.5
31	8/19/79	22	19	47.2	10.0	54.2	560.7
31	8/19/79	22	26	7.4	10.9	55.1	561.5
31	8/19/79	22	33	4.9	11.5	55.6	562.1
31	8/19/79	22	43	5.2	12.3	56.5	563.0
31	8/19/79	22	48	13.7	13.5	57.7	564.1
31	8/19/79	22	57	5.7	14.3	58.5	565.0
31	8/19/79	23	17	1.7	14.9	59.1	565.5
31	8/20/79	0	34	0.0	14.9	0.0	565.5
31	8/20/79	1	4	1.7	15.7	0.9	566.4
31	8/21/79	18	26	0.0	0.0	0.0	566.4
31	8/21/79	18	38	74.6	14.9	14.9	581.3
31	8/21/79	18	40	33.8	16.0	16.0	582.4
31	8/21/79	18	47	43.4	21.1	21.1	587.5
31	8/21/79	18	50	11.3	21.7	21.7	588.1
31	8/21/79	18	58	14.8	23.6	23.6	590.0
31	8/21/79	19	8	23.6	27.6	27.6	594.0
31	8/21/79	19	11	11.3	28.1	28.1	594.5
31	8/21/79	20	10	0.6	28.7	28.7	595.1
31	8/22/79			NO DATA	0.0	0.0	595.1
31	8/22/79			NO DATA	3.8	3.8	598.9
31	8/26/79			NO DATA	0.0	0.0	598.9
31	8/26/79			NO DATA	2.5	2.5	601.4
31	8/28/79	20	57	0.0	0.0	0.0	601.4
31	8/28/79	21	0	44.7	2.2	2.2	603.7
31	8/28/79	21	2	75.5	4.7	4.7	606.2
31	8/28/79	21	5	5.6	5.0	5.0	606.5
31	8/28/79	23	50	0.1	5.3	5.3	606.7
31	8/28/79	23	54	4.2	5.6	5.6	607.0
31	9/ 5/79	19	39	0.0	0.0	0.0	607.0
31	9/ 5/79	19	55	2.0	0.5	0.5	607.6
31	9/ 5/79	20	2	6.7	1.3	1.3	608.3
31	9/ 5/79	20	8	7.9	2.1	2.1	609.1
31	9/ 5/79	20	24	1.0	2.4	2.4	609.4
31	9/ 5/79	21	2	4.1	5.0	5.0	612.0
31	9/ 5/79	21	12	3.1	5.5	5.5	612.5
31	9/ 5/79	21	42	4.7	7.9	7.9	614.9
31	9/ 5/79	22	2	1.6	8.4	8.4	615.4
31	9/ 5/79	22	22	0.8	8.6	8.6	615.7
31	9/24/79	5	9	0.0	0.0	0.0	615.7
31	9/24/79	5	13	28.2	1.9	1.9	617.5
31	9/24/79	5	16	43.0	4.0	4.0	619.7
31	9/24/79	5	20	12.1	4.8	4.8	620.5
31	9/24/79	5	23	10.7	5.4	5.4	621.0
31	9/24/79	5	25	24.2	6.2	6.2	621.8
31	9/24/79	5	28	10.7	6.7	6.7	622.4
31	9/24/79	5	33	22.6	8.6	8.6	624.3
31	9/24/79	5	38	6.4	9.1	9.1	624.8
31	9/24/79	5	48	3.2	9.7	9.7	625.3
31	9/24/79	5	58	1.6	9.9	9.9	625.6
31	9/24/79	6	18	1.6	10.5	10.5	626.1
31	9/24/79	6	40	5.9	12.6	12.6	628.3
31	9/24/79	6	46	2.7	12.9	12.9	628.6
31	9/24/79	7	8	2.9	14.0	14.0	629.6
31	9/24/79	9	15	0.0	14.0	14.0	629.6
31	9/24/79	9	18	5.4	14.2	14.2	629.9
31	9/24/79	9	58	0.4	14.5	14.5	630.2
31	9/24/79	10	10	4.0	15.3	15.3	631.0
31	9/24/79	10	20	1.6	15.6	15.6	631.2
31	9/24/79	10	38	0.9	15.9	15.9	631.5
31	9/24/79	10	48	4.8	16.7	16.7	632.3
31	9/24/79	10	58	0.0	16.7	16.7	632.3
31	9/24/79	11	2	8.1	17.2	17.2	632.9
31	9/24/79	11	8	5.4	17.7	17.7	633.4
31	9/24/79	11	15	2.3	18.0	18.0	633.7
31	9/24/79	11	30	2.1	18.5	18.5	634.2
31	10/ 1/79	9	40	0.0	0.0	0.0	634.2
31	10/ 1/79	12	0	0.2	0.5	0.5	634.7
31	10/ 1/79	12	7	2.2	0.8	0.8	635.0
31	10/ 1/79	12	8	30.5	1.3	1.3	635.5
31	10/ 1/79	12	30	1.4	1.8	1.8	636.0
31	10/ 1/79	12	40	10.7	3.6	3.6	637.8
31	10/ 1/79	12	50	4.6	4.3	4.3	638.5
31	10/ 1/79	13	10	2.3	5.1	5.1	639.3
31	10/ 1/79	14	30	0.6	5.8	5.8	640.0
31	10/ 3/79			NO DATA	0.0	0.0	640.0

TABLE B1- 1. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
31	10/ 3/79			NO DATA	2.5	2.5	642.6
31	10/11/79			NO DATA	0.0	0.0	642.6
31	10/11/79			NO DATA	3.8	3.8	646.4
31	10/18/79	22	23	0.0	0.0	0.0	646.4
31	10/18/79	22	35	5.4	1.1	1.1	647.5
31	10/18/79	22	45	13.0	3.2	3.2	649.6
31	10/18/79	22	52	7.0	4.1	4.1	650.5
31	10/18/79	22	54	40.6	5.4	5.4	651.8
31	10/18/79	22	59	6.5	6.0	6.0	652.3
31	10/18/79	23	5	59.5	11.9	11.9	658.3
31	10/18/79	23	9	28.4	13.8	13.8	660.2
31	10/18/79	23	12	32.5	15.4	15.4	661.8
31	10/18/79	23	14	48.7	17.1	17.1	663.4
31	10/18/79	23	19	13.0	18.1	18.1	664.5
31	10/18/79	23	23	60.9	22.2	22.2	668.6
31	10/18/79	23	24	81.2	23.5	23.5	669.9
31	10/18/79	23	26	40.6	24.9	24.9	671.3
31	10/18/79	23	28	32.5	26.0	26.0	672.4
31	10/18/79	23	30	8.1	26.3	26.3	672.6
31	10/18/79	23	32	40.6	27.6	27.6	674.0
31	10/18/79	23	34	40.6	29.0	29.0	675.4
31	10/18/79	23	35	81.2	30.3	30.3	676.7
31	10/18/79	23	38	32.5	31.9	31.9	678.3
31	10/18/79	23	43	16.2	33.3	33.3	679.7
31	10/18/79	23	49	10.8	34.4	34.4	680.8
31	10/18/79	23	52	27.1	35.7	35.7	682.1
31	10/19/79	0	4	0.0	35.7	0.0	682.1
31	10/19/79	0	14	8.1	37.1	1.4	683.5
31	10/21/79	22	29	0.0	0.0	0.0	683.5
31	10/21/79	22	33	24.2	1.6	1.6	685.1
31	10/21/79	22	36	96.9	6.5	6.5	689.9
31	10/21/79	22	44	6.1	7.3	7.3	690.7
31	10/21/79	22	53	21.5	10.5	10.5	694.0
31	10/21/79	23	11	1.8	11.0	11.0	694.5
31	10/21/79	23	28	4.7	12.4	12.4	695.9
31	10/22/79	0	13	1.8	13.7	1.3	697.2
31	10/22/79	0	40	1.2	14.3	1.9	697.7
31	10/22/79	1	3	2.8	15.3	3.0	698.8
31	10/22/79	1	18	1.1	15.6	3.2	699.1
31	10/22/79	2	6	1.3	16.7	4.3	700.2
31	10/22/79	2	18	2.7	17.2	4.8	700.7
31	10/22/79	2	30	6.7	18.6	6.2	702.0
31	10/22/79	3	13	1.1	19.4	7.0	702.8
31	10/22/79	3	38	1.9	20.2	7.8	703.7
31	10/22/79	4	23	5.4	24.2	11.8	707.7
31	10/22/79	4	43	5.7	26.1	13.7	709.6
31	10/22/79	5	13	7.5	29.9	17.5	713.3
31	10/22/79	5	25	14.8	32.8	20.5	716.3
31	10/22/79	5	43	11.7	36.3	24.0	719.8
31	10/22/79	6	5	8.1	39.3	26.9	722.8
31	10/22/79	6	19	11.5	42.0	29.6	725.5
31	10/22/79	6	28	7.2	43.1	30.7	726.5
31	10/22/79	6	34	2.7	43.3	31.0	726.8
31	10/22/79	6	38	16.1	44.4	32.0	727.9
31	10/22/79	6	49	7.3	45.8	33.4	729.2
31	10/22/79	7	5	8.1	47.9	35.5	731.4
31	10/22/79	7	28	4.9	49.8	37.4	733.3
31	10/22/79	7	49	3.8	51.1	38.8	734.6
31	10/22/79	8	18	5.6	53.8	41.4	737.3
31	10/22/79	8	30	6.7	55.2	42.8	738.6
31	10/22/79	9	2	1.0	55.7	43.3	739.2
31	10/22/79	9	14	2.7	56.3	43.9	739.7
31	10/22/79	9	38	1.3	56.8	44.4	740.3
31	10/22/79	9	45	6.9	57.6	45.2	741.1
31	10/22/79	9	57	1.3	57.9	45.5	741.3
31	10/22/79	10	8	7.3	59.2	46.8	742.7
31	10/22/79	10	14	5.4	59.7	47.4	743.2
31	10/22/79	10	28	11.5	62.4	50.1	745.9
31	10/22/79	10	47	10.2	65.7	53.3	749.1
31	10/22/79	11	4	2.8	66.5	54.1	749.9
31	10/22/79	11	15	4.4	67.3	54.9	750.8
31	10/22/79	11	28	5.0	68.4	56.0	751.8
31	10/22/79	11	33	9.7	69.2	56.8	752.6
31	10/22/79	11	41	4.0	69.7	57.3	753.2
31	10/22/79	11	50	9.0	71.1	58.7	754.5
31	10/22/79	11	58	22.2	74.0	61.6	757.5
31	10/22/79	12	15	3.8	75.1	62.7	758.6
31	10/22/79	18	8	0.1	75.6	63.2	759.1
31	10/22/79	20	8	0.5	76.7	64.3	760.2
31	10/22/79	20	48	1.2	77.5	65.1	761.0
31	10/22/79	21	8	1.6	78.1	65.7	761.5
31	10/22/79	21	51	1.5	79.1	66.7	762.6
31	10/22/79	22	39	1.0	79.9	67.6	763.4
31	10/23/79	0	8	0.2	80.2	0.3	763.7
31	10/23/79	0	38	1.1	80.7	0.8	764.2
31	10/23/79	1	38	0.5	81.3	1.3	764.7
31	10/31/79	5	32	0.0	0.0	0.0	764.7
31	10/31/79	6	42	1.2	1.4	1.4	766.1
31	10/31/79	8	9	0.4	1.9	1.9	766.7
31	10/31/79	8	30	6.3	4.1	4.1	768.9
31	10/31/79	8	32	74.1	6.6	6.6	771.3
31	10/31/79	8	37	23.1	8.5	8.5	773.3
31	10/31/79	8	45	8.2	9.6	9.6	774.4
31	10/31/79	8	56	3.0	10.2	10.2	774.9
31	10/31/79	9	11	3.3	11.0	11.0	775.7
31	10/31/79	9	25	7.1	12.6	12.6	777.4
31	10/31/79	9	36	3.0	13.2	13.2	777.9
31	10/31/79	9	57	4.7	14.8	14.8	779.6
31	10/31/79	10	12	1.1	15.1	15.1	779.8
31	10/31/79	10	30	2.7	15.9	15.9	780.7

TABLE B1- 1. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
31	10/31/79	10	42	1.4	16.2	16.2	780.9
31	10/31/79	11	2	2.5	17.0	17.0	781.8
31	11/ 5/79	5	40	0.0	0.0	0.0	781.8
31	11/ 5/79	6	40	1.5	1.5	1.5	783.2
31	11/ 5/79	9	13	0.6	2.9	2.9	784.7
31	11/ 5/79	11	28	0.4	3.8	3.8	785.5
31	11/ 5/79	11	34	5.8	4.4	4.4	786.1
31	11/ 5/79	11	37	11.6	4.9	4.9	786.7
31	11/ 5/79	11	58	2.5	5.8	5.8	787.6
31	11/ 5/79	12	32	1.0	6.4	6.4	788.2
31	11/ 5/79	14	50	0.4	7.3	7.3	789.0
31	11/ 5/79	15	20	1.2	7.9	7.9	789.6
31	11/ 5/79	15	30	3.5	8.4	8.4	790.2
31	11/ 5/79	15	50	0.9	8.7	8.7	790.5
31	11/ 5/79	16	5	1.2	9.0	9.0	790.8
31	11/ 5/79	16	15	3.5	9.6	9.6	791.4
31	11/ 5/79	16	59	0.8	10.2	10.2	791.9
31	11/ 5/79	17	40	0.9	10.8	10.8	792.5
31	11/ 5/79	18	2	2.4	11.6	11.6	793.4
31	11/ 5/79	18	40	3.7	14.0	14.0	795.7

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM

TABLE B1- 2. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1979 GAGE 32

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
32	4/19/79			NO DATA	0.0	0.0	0.0
32	4/19/79			NO DATA	17.8	17.8	17.8
32	4/20/79			NO DATA	0.0	0.0	17.8
32	4/20/79			NO DATA	36.3	36.3	54.1
32	4/25/79	10	5	0.0	0.0	0.0	54.1
32	4/25/79	10	15	3.1	0.5	0.5	54.6
32	4/25/79	10	21	39.2	4.4	4.4	58.5
32	4/25/79	10	41	11.0	8.1	8.1	62.2
32	4/25/79	11	0	3.3	9.2	9.2	63.3
32	4/25/79	11	41	1.1	9.9	9.9	64.0
32	4/25/79	12	5	0.7	10.2	10.2	64.3
32	4/25/79	14	45	0.1	10.5	10.5	64.6
32	4/25/79	15	5	1.6	11.0	11.0	65.1
32	4/25/79	15	20	5.2	12.3	12.3	66.4
32	4/25/79	15	43	2.0	13.1	13.1	67.2
32	4/25/79	15	52	3.5	13.6	13.6	67.7
32	4/25/79	16	24	1.0	14.1	14.1	68.2
32	4/25/79	16	34	4.7	14.9	14.9	69.0
32	4/25/79	16	43	1.7	15.2	15.2	69.3
32	4/25/79	16	52	7.0	16.2	16.2	70.3
32	4/25/79	17	15	2.7	17.3	17.3	71.4
32	4/25/79	17	35	0.8	17.5	17.5	71.6
32	4/29/79			NO DATA	0.0	0.0	71.6
32	4/29/79			NO DATA	2.0	2.0	73.7
32	5/ 2/79	8	58	0.0	0.0	0.0	73.7
32	5/ 2/79	9	0	15.7	0.5	0.5	74.2
32	5/ 2/79	9	48	0.7	1.0	1.0	74.7
32	5/ 2/79	9	57	5.2	1.8	1.8	75.5
32	5/ 2/79	10	30	1.4	2.6	2.6	76.3
32	5/ 2/79	10	48	1.7	3.1	3.1	76.8
32	5/ 2/79	11	33	1.7	4.5	4.5	78.1
32	5/ 2/79	11	46	6.1	5.8	5.8	79.4
32	5/ 2/79	12	4	2.6	6.6	6.6	80.2
32	5/ 2/79	12	10	10.5	7.6	7.6	81.3
32	5/ 2/79	12	20	4.7	8.4	8.4	82.1
32	5/ 2/79	12	40	3.9	9.7	9.7	83.4
32	5/ 2/79	13	12	3.0	11.3	11.3	84.9
32	5/ 2/79	13	31	5.8	13.1	13.1	86.8
32	5/ 2/79	13	50	4.1	14.4	14.4	88.1
32	5/ 2/79	14	10	4.7	16.0	16.0	89.7
32	5/ 2/79	14	40	2.1	17.1	17.1	90.7
32	5/ 2/79	14	50	3.1	17.6	17.6	91.2
32	5/ 2/79	15	10	3.1	18.6	18.6	92.3
32	5/ 2/79	15	24	2.2	19.2	19.2	92.8
32	5/ 2/79	16	22	1.4	20.5	20.5	94.1
32	5/ 2/79	16	46	0.7	20.7	20.7	94.4
32	5/ 2/79	17	25	2.0	22.0	22.0	95.7
32	5/ 2/79	17	50	0.6	22.3	22.3	96.0
32	5/ 2/79	18	0	3.1	22.8	22.8	96.5
32	5/ 2/79	18	20	0.8	23.1	23.1	96.7
32	5/ 2/79	19	0	1.2	23.9	23.9	97.5
32	5/ 8/79			NO DATA	0.0	0.0	97.5
32	5/ 8/79			NO DATA	0.8	0.8	98.3
32	5/10/79	16	2	0.0	0.0	0.0	98.3
32	5/10/79	16	8	4.9	0.5	0.5	98.8
32	5/10/79	16	10	14.7	1.0	1.0	99.3
32	5/10/79	16	18	18.4	3.4	3.4	101.7
32	5/10/79	16	24	2.5	3.7	3.7	102.0
32	5/10/79	17	57	0.3	4.2	4.2	102.5
32	5/10/79	18	15	1.6	4.7	4.7	103.0
32	5/10/79	18	38	0.0	4.7	4.7	103.0
32	5/10/79	18	40	44.2	6.1	6.1	104.4
32	5/10/79	18	50	5.9	7.1	7.1	105.4
32	5/12/79			NO DATA	0.0	0.0	105.4
32	5/12/79			NO DATA	1.3	1.3	106.7
32	5/13/79			NO DATA	0.0	0.0	106.7
32	5/13/79			NO DATA	0.5	0.5	107.2
32	5/18/79			NO DATA	0.0	0.0	107.2
32	5/18/79			NO DATA	7.9	7.9	115.1
32	5/26/79	7	30	0.0	0.0	0.0	115.1
32	5/26/79	17	54	0.0	0.5	0.5	115.6
32	5/26/79	17	57	61.0	3.6	3.6	118.6
32	5/26/79	18	2	15.2	4.8	4.8	119.9
32	5/26/79	18	8	5.1	5.3	5.3	120.4
32	5/26/79	18	20	8.9	7.1	7.1	122.2
32	5/26/79	18	30	3.0	7.6	7.6	122.7
32	5/29/79	3	55	0.0	0.0	0.0	122.7
32	5/29/79	4	5	4.2	0.7	0.7	123.4
32	5/29/79	4	15	1.4	0.9	0.9	123.6
32	5/29/79	4	17	21.2	1.6	1.6	124.3
32	5/29/79	4	21	17.6	2.8	2.8	125.5
32	5/29/79	4	30	4.7	3.5	3.5	126.2
32	5/29/79	8	3	0.1	4.0	4.0	126.7
32	5/29/79	8	8	11.3	4.9	4.9	127.6
32	5/29/79	8	13	11.3	5.9	5.9	128.6
32	5/29/79	8	30	1.7	6.3	6.3	129.0
32	5/30/79			NO DATA	0.0	0.0	129.0
32	5/30/79			NO DATA	1.3	1.3	130.3
32	6/ 4/79	18	50	0.0	0.0	0.0	130.3
32	6/ 4/79	18	53	65.5	3.3	3.3	133.6
32	6/ 4/79	18	57	45.0	6.3	6.3	136.6

TABLE B1- 2. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
32	6/ 4/79	19	0	21.8	7.4	7.4	137.7
32	6/ 7/79			NO DATA	0.0	0.0	137.7
32	6/ 7/79			NO DATA	0.3	0.3	137.9
32	6/ 8/79	7	50	0.0	0.0	0.0	137.9
32	6/ 8/79	7	55	7.4	0.6	0.6	138.5
32	6/ 8/79	8	2	10.5	1.8	1.8	139.8
32	6/ 8/79	8	15	2.8	2.5	2.5	140.4
32	6/ 8/79	8	20	7.4	3.1	3.1	141.0
32	6/ 8/79	8	33	2.8	3.7	3.7	141.6
32	6/ 8/79	9	15	1.3	4.6	4.6	142.5
32	6/ 8/79	9	50	2.1	5.8	5.8	143.8
32	6/ 9/79	6	53	0.0	0.0	0.0	143.8
32	6/ 9/79	6	57	19.8	1.3	1.3	145.1
32	6/ 9/79	7	3	15.8	2.9	2.9	146.7
32	6/ 9/79	8	23	0.0	2.9	2.9	146.7
32	6/ 9/79	8	28	3.2	3.2	3.2	146.9
32	6/ 9/79	9	5	0.0	3.2	3.2	146.9
32	6/ 9/79	9	18	2.4	3.7	3.7	147.5
32	6/ 9/79	10	14	0.6	4.2	4.2	148.0
32	6/ 9/79	10	29	6.3	5.8	5.8	149.6
32	6/ 9/79	10	35	2.6	6.1	6.1	149.8
32	6/ 9/79	10	40	9.5	6.9	6.9	150.6
32	6/ 9/79	10	50	3.2	7.4	7.4	151.1
32	6/ 9/79	11	1	8.6	9.0	9.0	152.7
32	6/ 9/79	11	8	13.6	10.6	10.6	154.3
32	6/ 9/79	11	13	15.8	11.9	11.9	155.6
32	6/ 9/79	11	19	2.6	12.1	12.1	155.9
32	6/ 9/79	11	24	3.2	12.4	12.4	156.2
32	6/ 9/79	11	41	2.8	13.2	13.2	156.9
32	6/ 9/79	12	10	1.1	13.7	13.7	157.5
32	6/ 9/79			NO DATA	0.0	13.7	157.5
32	6/ 9/79			NO DATA	0.8	14.5	158.2
32	6/12/79	17	36	0.0	0.0	0.0	158.2
32	6/12/79	17	40	26.5	1.8	1.8	160.0
32	6/12/79	17	42	15.1	2.3	2.3	160.5
32	6/12/79	17	49	4.3	2.8	2.8	161.0
32	6/12/79	17	52	55.5	5.6	5.6	163.8
32	6/12/79	17	57	24.2	7.6	7.6	165.8
32	6/12/79	18	0	111.1	13.1	13.1	171.4
32	6/12/79	18	1	151.5	15.7	15.7	173.9
32	6/12/79	18	2	227.2	19.4	19.4	177.7
32	6/12/79	18	3	227.2	23.2	23.2	181.5
32	6/12/79	18	7	113.6	30.8	30.8	189.0
32	6/12/79	18	10	25.2	32.1	32.1	190.3
32	6/12/79	18	18	13.3	33.8	33.8	192.1
32	6/12/79	18	22	30.3	35.8	35.8	194.1
32	6/12/79	18	32	6.1	36.9	36.9	195.1
32	6/12/79	18	42	7.6	38.1	38.1	196.4
32	6/12/79	20	54	0.2	38.6	38.6	196.9
32	6/12/79	21	22	1.6	39.4	39.4	197.6
32	6/12/79	22	17	0.3	39.6	39.6	197.9
32	6/12/79	22	22	9.1	40.4	40.4	198.6
32	6/12/79	22	31	1.7	40.6	40.6	198.9
32	6/12/79	22	37	2.5	40.9	40.9	199.1
32	6/17/79			NO DATA	0.0	0.0	199.1
32	6/17/79			NO DATA	1.3	1.3	200.4
32	6/18/79			NO DATA	0.0	0.0	200.4
32	6/18/79			NO DATA	13.5	13.5	213.9
32	6/19/79			NO DATA	0.0	0.0	213.9
32	6/19/79			NO DATA	11.4	11.4	225.3
32	6/26/79	23	52	0.0	0.0	0.0	225.3
32	6/26/79	23	59	38.2	4.5	4.5	229.7
32	6/27/79	0	3	44.5	7.4	3.0	232.7
32	6/27/79	0	15	62.4	19.9	15.4	245.2
32	6/27/79	0	28	58.9	32.7	28.2	258.0
32	6/27/79	0	30	44.5	34.1	29.7	259.4
32	6/27/79	0	37	15.3	35.9	31.5	261.2
32	6/27/79	0	40	53.4	38.6	34.1	263.9
32	6/27/79	0	45	21.4	40.4	35.9	265.7
32	6/27/79	1	0	3.6	41.3	36.8	266.6
32	6/27/79	1	14	3.8	42.2	37.7	267.5
32	6/28/79			NO DATA	0.0	0.0	267.5
32	6/28/79			NO DATA	0.5	0.5	268.0
32	7/ 3/79	8	55	0.0	0.0	0.0	268.0
32	7/ 3/79	9	17	52.2	19.1	19.1	287.1
32	7/ 3/79	9	20	58.8	22.1	22.1	290.0
32	7/ 3/79	9	23	88.3	26.5	26.5	294.4
32	7/ 3/79	9	32	29.4	30.9	30.9	298.9
32	7/ 3/79	9	38	64.7	37.4	37.4	305.3
32	7/ 3/79	9	42	35.3	39.7	39.7	307.7
32	7/ 3/79	9	50	4.4	40.3	40.3	308.3
32	7/ 3/79	11	3	0.5	40.9	40.9	308.9
32	7/ 3/79	20	51	0.0	0.0	40.9	308.9
32	7/ 3/79	20	57	11.1	1.1	42.0	310.0
32	7/ 3/79	20	58	66.8	2.2	43.1	311.1
32	7/ 3/79	21	0	8.3	2.5	43.4	311.4
32	7/ 3/79	21	3	5.6	2.8	43.7	311.6
32	7/ 3/79	21	10	9.5	3.9	44.8	312.8
32	7/ 3/79	21	30	4.2	5.3	46.2	314.1
32	7/ 3/79	21	42	2.8	5.8	46.7	314.7
32	7/10/79			NO DATA	0.0	0.0	314.7

TABLE 81- 2. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
32	7/10/79			NO DATA	3.8	3.8	318.5
32	7/13/79	9	8	0.0	0.0	0.0	318.5
32	7/13/79	9	14	33.3	3.3	3.3	321.8
32	7/13/79	9	18	15.4	4.4	4.4	322.9
32	7/13/79	9	20	61.5	6.4	6.4	324.9
32	7/13/79	9	24	11.5	7.2	7.2	325.7
32	7/13/79	9	28	34.6	9.5	9.5	328.0
32	7/13/79	10	1	3.3	11.3	11.3	329.8
32	7/13/79	10	12	4.2	12.0	12.0	330.6
32	7/13/79	19	55	0.0	12.0	12.0	330.6
32	7/13/79	20	0	67.6	17.7	17.7	336.2
32	7/14/79	0	40	0.2	18.4	0.8	337.0
32	7/14/79	0	42	38.4	19.7	2.0	338.2
32	7/14/79	0	44	115.3	23.6	5.9	342.1
32	7/14/79	0	47	46.1	25.9	8.2	344.4
32	7/14/79	0	56	5.1	26.6	9.0	345.2
32	7/14/79	0	59	76.9	30.5	12.8	349.0
32	7/14/79	1	4	27.7	32.8	15.1	351.3
32	7/14/79	1	8	92.2	38.9	21.3	357.5
32	7/14/79	1	10	15.4	39.5	21.8	358.0
32	7/14/79	1	20	4.6	40.2	22.5	358.7
32	7/14/79	1	23	35.9	42.0	24.3	360.5
32	7/14/79	1	26	25.6	43.3	25.6	361.8
32	7/14/79	1	30	23.1	44.8	27.2	363.3
32	7/14/79	1	34	7.7	45.4	27.7	363.9
32	7/14/79	1	40	69.2	52.3	34.6	370.8
32	7/14/79	1	45	9.2	53.0	35.4	371.5
32	7/14/79	2	6	0.7	53.3	35.6	371.8
32	7/14/79	2	31	1.2	53.8	36.1	372.3
32	7/14/79	2	33	15.4	54.3	36.6	372.8
32	7/14/79	2	35	46.1	55.9	38.2	374.4
32	7/14/79	3	50	0.8	56.9	39.2	375.4
32	7/14/79	4	0	4.6	57.6	40.0	376.2
32	7/14/79	4	5	6.1	58.2	40.5	376.7
32	7/14/79	4	15	3.1	58.7	41.0	377.2
32	7/19/79			NO DATA	0.0	0.0	377.2
32	7/19/79			NO DATA	3.8	3.8	381.0
32	7/24/79			NO DATA	0.0	0.0	381.0
32	7/24/79			NO DATA	2.5	2.5	383.5
32	7/29/79			NO DATA	0.0	0.0	383.5
32	7/29/79			NO DATA	4.8	4.8	388.4
32	7/30/79			NO DATA	0.0	0.0	388.4
32	7/30/79			NO DATA	1.8	1.8	390.1
32	8/ 1/79			NO DATA	0.0	0.0	390.1
32	8/ 1/79			NO DATA	1.0	1.0	391.1
32	8/ 8/79	19	51	0.0	0.0	0.0	391.1
32	8/ 8/79	20	0	76.0	11.4	11.4	402.5
32	8/ 8/79	20	3	34.7	13.1	13.1	404.3
32	8/ 8/79	20	7	18.6	14.4	14.4	405.5
32	8/ 8/79	20	12	5.9	14.9	14.9	406.0
32	8/ 8/79	20	14	22.3	15.6	15.6	406.8
32	8/ 8/79	20	18	3.7	15.9	15.9	407.0
32	8/ 8/79	20	23	11.9	16.8	16.8	408.0
32	8/ 8/79	20	25	29.7	17.8	17.8	409.0
32	8/ 8/79	20	52	0.6	18.1	18.1	409.2
32	8/ 8/79	21	33	0.4	18.3	18.3	409.5
32	8/ 8/79	21	35	29.7	19.3	19.3	410.5
32	8/ 8/79	21	48	1.1	19.6	19.6	410.7
32	8/ 8/79	21	50	14.9	20.1	20.1	411.2
32	8/ 9/79	20	11	0.0	0.0	0.0	411.2
32	8/ 9/79	20	16	14.7	1.2	1.2	412.4
32	8/ 9/79	20	19	9.8	1.7	1.7	412.9
32	8/ 9/79	20	23	29.5	3.7	3.7	414.9
32	8/ 9/79	20	28	29.5	6.1	6.1	417.4
32	8/ 9/79	20	31	24.6	7.4	7.4	418.6
32	8/13/79			NO DATA	0.0	0.0	418.6
32	8/13/79			NO DATA	0.8	0.8	419.3
32	8/19/79	2	18	0.0	0.0	0.0	419.3
32	8/19/79	2	21	51.8	2.6	2.6	421.9
32	8/19/79	2	22	124.3	4.7	4.7	424.0
32	8/19/79	2	30	48.6	11.1	11.1	430.5
32	8/19/79	2	36	10.4	12.2	12.2	431.5
32	8/19/79	2	42	2.6	12.4	12.4	431.8
32	8/19/79	2	50	7.8	13.5	13.5	432.8
32	8/19/79	2	51	62.2	14.5	14.5	433.8
32	8/19/79	2	57	18.1	16.3	16.3	435.7
32	8/19/79	3	0	5.2	16.6	16.6	435.9
32	8/19/79	3	4	7.8	17.1	17.1	436.4
32	8/19/79	3	10	2.6	17.4	17.4	436.7
32	8/19/79	3	31	3.7	18.6	18.6	438.0
32	8/19/79	3	32	15.5	18.9	18.9	438.2
32	8/19/79	3	37	9.3	19.7	19.7	439.0
32	8/19/79	4	1	1.3	20.2	20.2	439.5
32	8/19/79	5	17	0.2	20.5	20.5	439.8
32	8/19/79	5	20	31.1	22.0	22.0	441.4
32	8/19/79	5	24	7.8	22.5	22.5	441.9
32	8/19/79	5	28	3.9	22.8	22.8	442.1
32	8/19/79	5	31	10.4	23.3	23.3	442.6
32	8/19/79	5	38	40.0	28.0	28.0	447.3
32	8/19/79	5	40	15.5	28.5	28.5	447.8
32	8/19/79	5	45	12.4	29.5	29.5	448.9
32	8/19/79	5	53	1.9	29.8	29.8	449.1
32	8/19/79	5	56	41.4	31.9	31.9	451.2
32	8/19/79	6	1	21.8	33.7	33.7	453.0

TABLE B1- 2. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
32	8/19/79	6	10	6.9	34.7	34.7	454.0
32	8/19/79	6	11	15.5	35.0	35.0	454.3
32	8/19/79	6	14	20.7	36.0	36.0	455.3
32	8/19/79	6	17	5.2	36.3	36.3	455.6
32	8/19/79	6	20	25.9	37.6	37.6	456.9
32	8/19/79	6	24	3.9	37.8	37.8	457.1
32	8/19/79	6	31	8.9	38.8	38.8	458.2
32	8/19/79	6	44	1.2	39.1	39.1	458.4
32	8/19/79	6	59	2.1	39.6	39.6	459.0
32	8/19/79	20	22	0.0	0.0	39.6	459.0
32	8/19/79	20	25	10.4	0.5	40.1	459.5
32	8/19/79	20	32	4.5	1.0	40.7	460.0
32	8/19/79	20	34	31.2	2.1	41.7	461.0
32	8/19/79	20	48	4.5	3.1	42.7	462.1
32	8/19/79	20	51	72.9	6.8	46.4	465.7
32	8/19/79	21	5	13.4	9.9	49.5	468.8
32	8/19/79	21	10	9.4	10.7	50.3	469.6
32	8/19/79	21	14	23.4	12.2	51.9	471.2
32	8/19/79	21	25	31.2	18.0	57.6	476.9
32	8/19/79	21	29	11.7	18.7	58.4	477.7
32	8/19/79	21	40	7.1	20.0	59.7	479.0
32	8/19/79	22	8	1.1	20.6	60.2	479.5
32	8/19/79	22	10	23.4	21.3	61.0	480.3
32	8/19/79	22	16	33.8	24.7	64.3	483.7
32	8/19/79	22	23	6.7	25.5	65.1	484.5
32	8/19/79	22	40	0.9	25.8	65.4	484.7
32	8/19/79	22	54	15.6	29.4	69.0	488.4
32	8/20/79	0	35	0.2	29.7	0.3	488.6
32	8/20/79	1	5	4.2	31.7	2.3	490.7
32	8/21/79	18	27	0.0	0.0	0.0	490.7
32	8/21/79	18	31	27.8	1.9	1.9	492.6
32	8/21/79	18	38	56.7	8.5	8.5	499.2
32	8/21/79	18	40	79.4	11.1	11.1	501.8
32	8/21/79	18	45	50.8	15.3	15.3	506.1
32	8/21/79	18	50	22.2	17.2	17.2	507.9
32	8/21/79	19	0	34.9	23.0	23.0	513.7
32	8/21/79	19	14	6.8	24.6	24.6	515.3
32	8/21/79	19	25	1.4	24.9	24.9	515.6
32	8/21/79	19	40	1.1	25.1	25.1	515.8
32	8/21/79	19	50	1.6	25.4	25.4	516.1
32	8/22/79			NO DATA	0.0	0.0	516.1
32	8/22/79			NO DATA	3.8	3.8	519.9
32	8/26/79			NO DATA	0.0	0.0	519.9
32	8/26/79			NO DATA	2.0	2.0	521.9
32	8/28/79			NO DATA	0.0	0.0	521.9
32	8/28/79			NO DATA	1.0	1.0	523.0
32	9/ 5/79	19	44	0.0	0.0	0.0	523.0
32	9/ 5/79	19	48	11.7	0.8	0.8	523.7
32	9/ 5/79	19	52	19.5	2.1	2.1	525.0
32	9/ 5/79	20	2	0.0	2.1	2.1	525.0
32	9/ 5/79	20	4	15.6	2.6	2.6	525.6
32	9/ 5/79	20	30	1.8	3.4	3.4	526.3
32	9/ 5/79	20	40	4.7	4.2	4.2	527.1
32	9/ 5/79	20	50	3.1	4.7	4.7	527.7
32	9/ 5/79	21	0	6.3	5.7	5.7	528.7
32	9/ 5/79	21	10	4.7	6.5	6.5	529.5
32	9/ 5/79	21	26	5.9	8.1	8.1	531.0
32	9/ 5/79	21	45	4.1	9.4	9.4	532.3
32	9/ 5/79	22	25	1.2	10.2	10.2	533.1
32	9/24/79			NO DATA	0.0	0.0	533.1
32	9/24/79			NO DATA	8.4	8.4	541.5
32	10/ 1/79			NO DATA	0.0	0.0	541.5
32	10/ 1/79			NO DATA	4.1	4.1	545.6
32	10/ 3/79			NO DATA	0.0	0.0	545.6
32	10/ 3/79			NO DATA	2.5	2.5	548.1
32	10/11/79			NO DATA	0.0	0.0	548.1
32	10/11/79			NO DATA	2.5	2.5	550.6
32	10/18/79	22	20	0.0	0.0	0.0	550.6
32	10/18/79	22	46	5.5	2.4	2.4	553.0
32	10/18/79	22	50	15.9	3.4	3.4	554.1
32	10/18/79	22	55	22.3	5.3	5.3	556.0
32	10/18/79	23	8	6.1	6.6	6.6	557.3
32	10/18/79	23	18	3.2	7.2	7.2	557.8
32	10/18/79	23	25	4.5	7.7	7.7	558.3
32	10/18/79	23	28	63.7	10.9	10.9	561.5
32	10/18/79	23	34	15.9	12.5	12.5	563.1
32	10/18/79	23	38	4.0	12.7	12.7	563.4
32	10/18/79	23	42	47.8	15.9	15.9	566.6
32	10/19/79	0	10	4.0	17.8	1.9	568.4
32	10/21/79	22	33	0.0	0.0	0.0	568.4
32	10/21/79	22	35	115.7	3.9	3.9	572.3
32	10/21/79	22	43	3.9	4.4	4.4	572.8
32	10/21/79	22	46	20.6	5.4	5.4	573.8
32	10/21/79	23	0	4.4	6.4	6.4	574.9
32	10/21/79	23	13	5.9	7.7	7.7	576.1
32	10/21/79	23	19	12.9	9.0	9.0	577.4
32	10/21/79	23	24	18.5	10.5	10.5	579.0
32	10/21/79	23	59	2.6	12.1	12.1	580.5
32	10/22/79	0	20	1.5	12.6	0.5	581.0
32	10/22/79	0	40	0.8	12.9	0.8	581.3
32	10/22/79	1	0	3.1	13.9	1.8	582.3
32	10/22/79	1	20	1.5	14.4	2.3	582.8

TABLE B1- 2. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
32	10/22/79	1	45	1.2	14.9	2.8	583.3
32	10/22/79	2	14	2.7	16.2	4.1	584.6
32	10/22/79	2	28	7.7	18.0	5.9	586.4
32	10/22/79	3	15	0.7	18.5	6.4	586.9
32	10/22/79	3	40	1.9	19.3	7.2	587.7
32	10/22/79	4	2	7.0	21.9	9.8	590.3
32	10/22/79	5	5	7.3	29.6	17.5	598.0
32	10/22/79	5	40	11.0	36.0	23.9	604.4
32	10/22/79	6	20	8.5	41.7	29.6	610.1
32	10/22/79	6	46	4.7	43.7	31.6	612.1
32	10/22/79	7	4	10.3	46.8	34.7	615.2
32	10/22/79	7	15	4.2	47.6	35.5	616.0
32	10/22/79	7	23	3.9	48.1	36.0	616.5
32	10/22/79	7	32	6.9	49.1	37.0	617.5
32	10/22/79	7	50	6.0	50.9	38.8	619.3
32	10/22/79	8	10	9.3	54.0	41.9	622.4
32	10/22/79	8	40	4.1	56.1	44.0	624.5
32	10/22/79	9	0	1.5	56.6	44.5	625.0
32	10/22/79	9	20	3.9	57.9	45.8	626.3
32	10/22/79	9	34	2.2	58.4	46.3	626.8
32	10/22/79	9	50	2.9	59.1	47.1	627.6
32	10/22/79	9	57	11.0	60.4	48.3	628.8
32	10/22/79	10	0	15.4	61.2	49.1	629.6
32	10/22/79	10	11	2.8	61.7	49.6	630.1
32	10/22/79	10	20	20.6	64.8	52.7	633.2
32	10/22/79	10	40	6.2	66.9	54.8	635.3
32	10/22/79	11	0	3.9	68.1	56.1	636.6
32	10/22/79	11	15	5.1	69.4	57.3	637.8
32	10/22/79	11	30	5.1	70.7	58.6	639.1
32	10/22/79	11	39	10.3	72.3	60.2	640.7
32	10/22/79	11	50	12.6	74.6	62.5	643.0
32	10/22/79	11	55	15.4	75.9	63.8	644.3
32	10/22/79	12	0	9.3	76.6	64.5	645.0
32	10/22/79	12	40	1.5	77.7	65.6	646.1
32	10/22/79	18	0	0.0	77.7	65.6	646.1
32	10/22/79	19	0	0.8	78.4	66.3	646.8
32	10/22/79	21	0	0.9	80.2	68.1	648.6
32	10/22/79	22	0	1.0	81.3	69.2	649.7
32	10/22/79	23	0	1.0	82.3	70.2	650.7
32	10/22/79	23	59	0.8	83.1	71.0	651.5
32	10/23/79	1	0	0.5	83.6	0.5	652.0
32	10/31/79	5	0	0.0	0.0	0.0	652.0
32	10/31/79	6	40	0.6	1.0	1.0	653.0
32	10/31/79	8	0	0.4	1.5	1.5	653.5
32	10/31/79	8	9	1.7	1.8	1.8	653.8
32	10/31/79	8	15	7.6	2.5	2.5	654.5
32	10/31/79	8	33	0.8	2.8	2.8	654.8
32	10/31/79	8	39	7.6	3.6	3.6	655.5
32	10/31/79	8	42	35.6	5.3	5.3	657.3
32	10/31/79	8	45	15.2	6.1	6.1	658.1
32	10/31/79	9	13	2.7	7.4	7.4	659.3
32	10/31/79	9	17	11.4	8.1	8.1	660.1
32	10/31/79	9	50	4.2	10.4	10.4	662.4
32	10/31/79	10	0	1.5	10.7	10.7	662.7
32	10/31/79	10	30	2.0	11.7	11.7	663.7
32	10/31/79	10	46	1.0	11.9	11.9	663.9
32	10/31/79	11	1	3.0	12.7	12.7	664.7
32	11/ 5/79			NO DATA	0.0	0.0	664.7
32	11/ 5/79			NO DATA	10.7	10.7	675.4

TABLE B1- 3. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1979 GAGE 33

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	1/ 1/79			SNOW	0.0	0.0	0.0
33	1/ 1/79			SNOW	0.3	0.3	0.3
33	1/11/79			SNOW	0.0	0.0	0.3
33	1/11/79			SNOW	0.3	0.3	0.5
33	1/13/79			SNOW	0.0	0.0	0.5
33	1/13/79			SNOW	8.9	8.9	9.4
33	1/18/79			SNOW	0.0	0.0	9.4
33	1/18/79			SNOW	8.1	8.1	17.5
33	1/20/79			SNOW	0.0	0.0	17.5
33	1/20/79			SNOW	0.5	0.5	18.0
33	1/23/79			SNOW	0.0	0.0	18.0
33	1/23/79			SNOW	2.3	2.3	20.3
33	1/26/79			SNOW	0.0	0.0	20.3
33	1/26/79			SNOW	4.1	4.1	24.4
33	1/30/79			SNOW	0.0	0.0	24.4
33	1/30/79			SNOW	1.3	1.3	25.7
33	2/ 7/79			SNOW	0.0	0.0	25.7
33	2/ 7/79			SNOW	3.8	3.8	29.5
33	2/20/79			SNOW	0.0	0.0	29.5
33	2/20/79			SNOW	3.0	3.0	32.5
33	3/ 3/79			SNOW	0.0	0.0	32.5
33	3/ 3/79			SNOW	23.1	23.1	55.6
33	3/ 4/79			SNOW	0.0	0.0	55.6
33	3/ 4/79			SNOW	6.6	6.6	62.2
33	3/18/79			SNOW	0.0	0.0	62.2
33	3/18/79			SNOW	10.7	10.7	72.9
33	3/22/79	22	35	0.0	0.0	0.0	72.9
33	3/22/79	22	36	49.4	0.8	0.8	73.7
33	3/22/79	23	10	0.5	1.1	1.1	74.0
33	3/22/79	23	28	3.7	2.2	2.2	75.1
33	3/22/79	23	30	8.2	2.5	2.5	75.4
33	3/22/79	23	42	5.5	3.6	3.6	76.5
33	3/22/79	23	46	12.3	4.4	4.4	77.3
33	3/22/79	24	0	4.7	5.5	5.5	78.4
33	3/23/79	1	10	0.7	6.3	0.8	79.2
33	3/23/79	2	0	0.7	6.9	1.4	79.8
33	3/23/79	2	22	1.5	7.4	1.9	80.3
33	3/23/79	3	24	0.3	7.7	2.2	80.6
33	3/23/79	3	32	6.2	8.5	3.0	81.4
33	3/23/79	3	40	4.1	9.0	3.6	81.9
33	3/23/79	5	35	0.7	10.4	4.9	83.3
33	3/23/79	8	6	0.5	11.8	6.3	84.7
33	3/23/79	9	35	0.6	12.6	7.1	85.5
33	3/23/79	11	0	0.8	13.7	8.2	86.6
33	3/23/79	13	0	0.1	14.0	8.5	86.9
33	3/23/79	14	0	0.5	14.5	9.0	87.4
33	3/23/79	14	40	2.1	15.9	10.4	88.8
33	3/23/79	16	30	0.7	17.3	11.8	90.2
33	3/24/79			SNOW	0.0	0.0	90.2
33	3/24/79			SNOW	11.7	11.7	101.9
33	3/28/79	17	35	0.0	0.0	0.0	101.9
33	3/28/79	17	50	3.2	0.8	0.8	102.7
33	3/28/79	18	0	6.5	1.9	1.9	103.7
33	3/28/79	18	10	9.7	3.5	3.5	105.4
33	3/28/79	18	36	5.6	5.9	5.9	107.8
33	3/28/79	18	50	3.5	6.8	6.8	108.6
33	3/28/79	20	0	0.5	7.3	7.3	109.1
33	3/28/79	20	20	4.9	8.9	8.9	110.8
33	3/28/79	20	42	3.7	10.3	10.3	112.1
33	3/28/79	22	2	0.4	10.8	10.8	112.7
33	3/28/79	22	30	1.7	11.6	11.6	113.5
33	3/28/79	23	35	0.0	11.6	11.6	113.5
33	3/28/79	24	0	1.3	12.2	12.2	114.0
33	3/29/79	0	45	1.1	13.0	0.8	114.8
33	3/29/79	0	51	13.5	14.3	2.2	116.2
33	3/29/79	1	0	3.6	14.9	2.7	116.7
33	3/29/79	1	46	1.1	15.7	3.5	117.5
33	3/29/79	5	53	0.1	16.2	4.1	118.1
33	3/29/79	6	13	2.4	17.0	4.9	118.9
33	3/29/79	7	43	0.0	17.0	4.9	118.9
33	3/29/79	7	49	32.4	20.3	8.1	122.1
33	3/29/79	8	20	1.6	21.1	8.9	122.9
33	4/ 1/79			SNOW	0.0	0.0	122.9
33	4/ 1/79			SNOW	15.2	15.2	138.2
33	4/10/79			NO DATA	0.0	0.0	138.2
33	4/10/79			NO DATA	3.0	3.0	141.2
33	4/11/79			NO DATA	0.0	0.0	141.2
33	4/11/79			NO DATA	2.5	2.5	143.8
33	4/19/79	6	15	0.0	0.0	0.0	143.8
33	4/19/79	6	55	2.0	1.3	1.3	145.1
33	4/19/79	8	15	0.6	2.1	2.1	145.9
33	4/19/79	8	45	1.6	2.9	2.9	146.7
33	4/19/79	8	56	1.4	3.2	3.2	146.9
33	4/19/79	9	20	2.0	4.0	4.0	147.7
33	4/19/79	9	43	0.7	4.2	4.2	148.0

TABLE B1- 3. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	4/19/79	9	57	3.4	5.0	5.0	148.8
33	4/19/79	10	49	0.3	5.3	5.3	149.1
33	4/19/79	10	57	6.0	6.1	6.1	149.9
33	4/19/79	11	6	7.1	7.1	7.1	150.9
33	4/19/79	11	19	3.7	7.9	7.9	151.7
33	4/19/79	12	2	0.4	8.2	8.2	152.0
33	4/19/79	12	5	21.2	9.3	9.3	153.0
33	4/19/79	12	25	1.6	9.8	9.8	153.6
33	4/19/79	12	45	2.4	10.6	10.6	154.4
33	4/19/79	12	55	23.8	14.6	14.6	158.3
33	4/19/79	12	59	27.8	16.4	16.4	160.2
33	4/19/79	13	14	2.1	16.9	16.9	160.7
33	4/19/79	13	16	47.7	18.5	18.5	162.3
33	4/19/79	13	24	9.9	19.9	19.9	163.6
33	4/20/79	3	33	0.1	20.7	0.8	164.4
33	4/20/79	3	34	143.0	23.0	3.2	166.8
33	4/20/79	3	45	7.2	24.4	4.5	168.1
33	4/20/79	4	7	2.2	25.2	5.3	168.9
33	4/20/79	4	15	4.0	25.7	5.8	169.4
33	4/20/79	4	20	54.0	30.2	10.3	173.9
33	4/20/79	4	35	2.1	30.7	10.9	174.5
33	4/20/79	5	33	0.3	31.0	11.1	174.7
33	4/20/79	5	40	2.3	31.2	11.4	175.0
33	4/20/79	5	56	1.0	31.5	11.7	175.3
33	4/20/79	6	5	1.8	31.8	11.9	175.5
33	4/20/79	6	15	1.6	32.0	12.2	175.8
33	4/20/79	6	26	2.9	32.6	12.7	176.3
33	4/20/79	6	30	7.9	33.1	13.2	176.9
33	4/20/79	6	48	1.8	33.6	13.8	177.4
33	4/20/79	6	53	9.5	34.4	14.6	178.2
33	4/20/79	7	1	4.0	35.0	15.1	178.7
33	4/20/79	7	5	11.9	35.7	15.9	179.5
33	4/20/79	8	55	0.3	36.3	16.4	180.0
33	4/20/79	9	0	12.7	37.3	17.5	181.1
33	4/20/79	9	35	4.1	39.7	19.9	183.5
33	4/20/79	9	53	4.4	41.0	21.2	184.8
33	4/20/79	10	15	2.2	41.8	22.0	185.6
33	4/20/79	10	20	6.4	42.4	22.5	186.1
33	4/20/79	10	41	0.8	42.6	22.8	186.4
33	4/20/79	11	9	4.5	44.7	24.9	188.5
33	4/20/79	11	15	15.9	46.3	26.5	190.1
33	4/20/79	11	26	2.9	46.9	27.0	190.6
33	4/20/79	12	17	0.6	47.4	27.5	191.2
33	4/20/79	12	54	8.2	52.4	32.6	196.2
33	4/20/79	13	10	6.0	54.0	34.2	197.8
33	4/20/79	13	15	3.2	54.3	34.4	198.0
33	4/20/79	13	25	4.8	55.1	35.2	198.8
33	4/20/79	13	26	47.7	55.9	36.0	199.6
33	4/20/79	13	35	1.8	56.1	36.3	199.9
33	4/25/79	10	17	0.0	0.0	0.0	199.9
33	4/25/79	10	21	11.6	0.8	0.8	200.7
33	4/25/79	10	26	15.5	2.1	2.1	202.0
33	4/25/79	10	40	10.0	4.4	4.4	204.3
33	4/25/79	10	41	31.1	4.9	4.9	204.8
33	4/25/79	11	0	3.3	6.0	6.0	205.8
33	4/25/79	11	30	1.0	6.5	6.5	206.4
33	4/25/79	12	0	0.5	6.7	6.7	206.6
33	4/25/79	14	57	0.3	7.5	7.5	207.4
33	4/25/79	15	18	5.2	9.3	9.3	209.2
33	4/25/79	15	40	1.4	9.8	9.8	209.7
33	4/25/79	15	50	3.1	10.4	10.4	210.2
33	4/25/79	16	20	0.0	10.4	10.4	210.2
33	4/25/79	16	36	2.9	11.1	11.1	211.0
33	4/25/79	16	45	5.2	11.9	11.9	211.8
33	4/25/79	17	0	4.1	12.9	12.9	212.8
33	4/25/79	17	20	2.3	13.7	13.7	213.6
33	4/29/79			NO DATA	0.0	0.0	213.6
33	4/29/79			NO DATA	1.8	1.8	215.4
33	5/ 2/79	9	0	0.0	0.0	0.0	215.4
33	5/ 2/79	9	2	15.1	0.5	0.5	215.9
33	5/ 2/79	9	45	0.7	1.0	1.0	216.4
33	5/ 2/79	10	3	2.5	1.8	1.8	217.1
33	5/ 2/79	10	30	0.6	2.0	2.0	217.4
33	5/ 2/79	10	45	3.0	2.8	2.8	218.2
33	5/ 2/79	11	30	1.7	4.0	4.0	219.4
33	5/ 2/79	11	59	4.2	6.0	6.0	221.4
33	5/ 2/79	12	14	5.0	7.3	7.3	222.7
33	5/ 2/79	12	19	15.1	8.6	8.6	223.9
33	5/ 2/79	13	10	3.8	11.8	11.8	227.2
33	5/ 2/79	13	25	7.0	13.6	13.6	229.0
33	5/ 2/79	13	40	7.0	15.3	15.3	230.7
33	5/ 2/79	14	8	5.4	17.9	17.9	233.2
33	5/ 2/79	14	45	2.9	19.6	19.6	235.0
33	5/ 2/79	15	25	2.6	21.4	21.4	236.8
33	5/ 2/79	16	30	1.2	22.6	22.6	238.0
33	5/ 2/79	16	50	0.8	22.9	22.9	238.3
33	5/ 2/79	17	24	1.8	23.9	23.9	239.3
33	5/ 2/79	18	7	1.1	24.7	24.7	240.0
33	5/ 2/79	19	30	0.9	25.9	25.9	241.3
33	5/ 8/79			NO DATA	0.0	0.0	241.3
33	5/ 8/79			NO DATA	4.1	4.1	245.4
33	5/10/79			NO DATA	0.0	0.0	245.4
33	5/10/79			NO DATA	5.1	5.1	250.4
33	5/12/79			NO DATA	0.0	0.0	250.4
33	5/12/79			NO DATA	1.5	1.5	252.0
33	5/13/79			NO DATA	0.0	0.0	252.0
33	5/13/79			NO DATA	1.5	1.5	253.5

TABLE B1- 3. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	5/18/79	18	0	0.0	0.0	0.0	253.5
33	5/18/79	21	3	0.5	1.5	1.5	254.9
33	5/18/79	21	13	1.7	1.7	1.7	255.2
33	5/18/79	21	38	0.7	2.0	2.0	255.5
33	5/18/79	21	43	3.5	2.3	2.3	255.8
33	5/18/79	22	0	2.0	2.9	2.9	256.4
33	5/18/79	22	43	1.6	4.1	4.1	257.6
33	5/18/79	23	36	0.3	4.4	4.4	257.8
33	5/18/79	23	42	5.8	4.9	4.9	258.4
33	5/18/79	23	47	17.4	6.4	6.4	259.9
33	5/18/79	23	53	5.8	7.0	7.0	260.5
33	5/19/79	0	3	7.0	8.1	1.2	261.6
33	5/26/79	8	30	0.0	0.0	0.0	261.6
33	5/26/79	9	31	0.9	0.9	0.9	262.5
33	5/26/79	9	50	0.7	1.1	1.1	262.7
33	5/26/79	10	0	2.7	1.6	1.6	263.2
33	5/26/79	10	6	13.6	2.9	2.9	264.6
33	5/26/79	12	0	0.2	3.4	3.4	265.0
33	5/26/79	17	52	0.0	3.4	3.4	265.0
33	5/26/79	17	55	9.1	3.9	3.9	265.5
33	5/26/79	18	3	6.8	4.8	4.8	266.4
33	5/26/79	18	13	2.7	5.2	5.2	266.8
33	5/26/79	18	20	9.7	6.3	6.3	268.0
33	5/29/79	7	25	0.0	0.0	0.0	268.0
33	5/29/79	7	30	14.1	1.2	1.2	269.1
33	5/29/79	7	36	5.9	1.8	1.8	269.7
33	5/29/79	7	40	26.4	3.5	3.5	271.5
33	5/29/79	7	48	4.4	4.1	4.1	272.1
33	5/29/79	7	53	10.6	5.0	5.0	272.9
33	5/29/79	8	25	1.1	5.6	5.6	273.5
33	5/29/79	8	40	2.3	6.2	6.2	274.1
33	5/29/79	9	30	0.4	6.4	6.4	274.4
33	5/29/79	11	0	0.8	7.6	7.6	275.6
33	5/30/79			NO DATA	0.0	0.0	275.6
33	5/30/79			NO DATA	0.3	0.3	275.8
33	6/ 4/79	10	10	0.0	0.0	0.0	275.8
33	6/ 4/79	10	35	3.2	1.3	1.3	277.2
33	6/ 4/79	18	5	0.0	1.3	1.3	277.2
33	6/ 4/79	18	20	4.3	2.4	2.4	278.3
33	6/ 4/79	18	46	3.1	3.8	3.8	279.6
33	6/ 4/79	18	49	81.0	7.8	7.8	283.7
33	6/ 4/79	18	52	97.2	12.7	12.7	288.5
33	6/ 4/79	18	58	40.5	16.7	16.7	292.6
33	6/ 4/79	19	12	2.3	17.3	17.3	293.1
33	6/ 7/79			NO DATA	0.0	0.0	293.1
33	6/ 7/79			NO DATA	3.8	3.8	296.9
33	6/ 8/79	8	6	0.0	0.0	0.0	296.9
33	6/ 8/79	8	14	4.7	0.6	0.6	297.5
33	6/ 8/79	8	19	15.1	1.9	1.9	298.8
33	6/ 8/79	8	35	5.9	3.5	3.5	300.4
33	6/ 8/79	9	5	1.3	4.1	4.1	301.0
33	6/ 8/79	9	50	3.4	6.6	6.6	303.5
33	6/ 9/79	6	47	0.0	0.0	0.0	303.5
33	6/ 9/79	6	49	51.5	1.7	1.7	305.2
33	6/ 9/79	6	55	14.3	3.1	3.1	306.7
33	6/ 9/79	9	0	0.0	3.1	3.1	306.7
33	6/ 9/79	9	8	8.6	4.3	4.3	307.8
33	6/ 9/79	10	2	1.9	6.0	6.0	309.5
33	6/ 9/79	10	7	3.4	6.3	6.3	309.8
33	6/ 9/79	10	22	2.3	6.9	6.9	310.4
33	6/ 9/79	10	28	11.5	8.0	8.0	311.5
33	6/ 9/79	10	36	15.0	10.0	10.0	313.5
33	6/ 9/79	10	45	1.9	10.3	10.3	313.8
33	6/ 9/79	10	58	7.9	12.0	12.0	315.5
33	6/ 9/79	11	1	17.2	12.9	12.9	316.4
33	6/ 9/79	11	7	8.6	13.7	13.7	317.3
33	6/ 9/79	11	34	2.5	14.9	14.9	318.4
33	6/ 9/79	12	5	1.7	15.7	15.7	319.3
33	6/ 9/79			NO DATA	0.0	15.7	319.3
33	6/ 9/79			NO DATA	1.3	17.0	320.5
33	6/12/79	17	38	0.0	0.0	0.0	320.5
33	6/12/79	17	40	79.5	2.6	2.6	323.2
33	6/12/79	17	42	119.2	6.6	6.6	327.2
33	6/12/79	17	44	79.5	9.3	9.3	329.8
33	6/12/79	17	57	3.7	10.1	10.1	330.6
33	6/12/79	18	2	149.4	22.5	22.5	343.1
33	6/12/79	18	8	180.2	40.5	40.5	361.1
33	6/12/79	18	10	135.2	45.0	45.0	365.6
33	6/12/79	18	16	113.9	56.4	56.4	377.0
33	6/12/79	18	22	13.2	57.8	57.8	378.3
33	6/12/79	18	31	5.3	58.6	58.6	379.1
33	6/12/79	18	43	2.6	59.1	59.1	379.6
33	6/12/79	19	9	1.2	59.6	59.6	380.1
33	6/12/79	20	50	0.6	60.7	60.7	381.2
33	6/12/79	21	0	1.6	60.9	60.9	381.5
33	6/12/79	22	30	0.4	61.5	61.5	382.0
33	6/17/79	21	0	0.0	0.0	0.0	382.0
33	6/18/79	6	10	0.2	1.4	1.4	383.4
33	6/18/79	6	27	2.0	2.0	2.0	384.0
33	6/18/79	6	30	17.1	2.9	2.9	384.9
33	6/18/79	6	37	4.9	3.4	3.4	385.4
33	6/18/79	6	40	28.6	4.9	4.9	386.9
33	6/18/79	6	44	34.3	7.1	7.1	389.1
33	6/18/79	6	45	102.9	8.9	8.9	390.9

TABLE B1- 3. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	6/18/79	6	58	2.6	9.4	9.4	391.4
33	6/18/79	7	0	34.3	10.6	10.6	392.6
33	6/18/79	7	10	5.1	11.4	11.4	393.4
33	6/19/79	21	52	0.0	0.0	0.0	393.4
33	6/19/79	21	58	17.4	1.7	1.7	395.2
33	6/19/79	22	7	5.0	2.5	2.5	395.9
33	6/19/79	22	14	12.8	4.0	4.0	397.4
33	6/19/79	22	16	37.2	5.2	5.2	398.6
33	6/19/79	22	26	14.9	7.7	7.7	401.1
33	6/19/79	22	27	55.6	8.7	8.7	402.1
33	6/19/79	22	36	9.9	10.2	10.2	403.6
33	6/19/79	22	47	4.1	10.9	10.9	404.4
33	6/19/79	23	3	0.9	11.2	11.2	404.6
33	6/26/79	23	52	0.0	0.0	0.0	404.6
33	6/26/79	23	57	15.4	1.3	1.3	405.9
33	6/27/79	0	2	49.4	5.4	4.1	410.0
33	6/27/79	0	6	46.3	8.5	7.2	413.1
33	6/27/79	0	14	115.7	23.9	22.6	428.5
33	6/27/79	0	15	92.6	25.5	24.2	430.1
33	6/27/79	0	22	35.3	29.6	28.3	434.2
33	6/27/79	0	26	11.6	30.3	29.1	434.9
33	6/27/79	0	29	51.4	32.9	31.6	437.5
33	6/27/79	0	36	13.2	34.5	33.2	439.1
33	6/27/79	0	47	29.4	39.9	38.6	444.5
33	6/27/79	0	52	9.3	40.6	39.3	445.2
33	6/27/79	1	0	1.9	40.9	39.6	445.5
33	6/27/79	1	8	7.7	41.9	40.6	446.5
33	6/27/79	1	20	1.3	42.2	40.9	446.8
33	6/28/79			NO DATA	0.0	0.0	446.8
33	6/28/79			NO DATA	1.3	1.3	448.0
33	7/ 3/79	7	42	0.0	0.0	0.0	448.0
33	7/ 3/79	7	47	56.8	4.7	4.7	452.8
33	7/ 3/79	7	51	27.6	6.6	6.6	454.6
33	7/ 3/79	7	55	59.2	10.5	10.5	458.6
33	7/ 3/79	8	1	34.2	13.9	13.9	462.0
33	7/ 3/79	8	6	22.1	15.8	15.8	463.8
33	7/ 3/79	8	10	31.6	17.9	17.9	465.9
33	7/ 3/79	8	15	15.8	19.2	19.2	467.2
33	7/ 3/79	8	41	0.6	19.5	19.5	467.5
33	7/ 3/79	8	43	110.5	23.2	23.2	471.2
33	7/ 3/79	8	49	44.7	27.6	27.6	475.7
33	7/ 3/79	8	59	20.5	31.0	31.0	479.1
33	7/ 3/79	9	20	11.3	35.0	35.0	483.0
33	7/ 3/79	9	23	78.9	38.9	38.9	487.0
33	7/ 3/79	9	31	59.2	46.8	46.8	494.9
33	7/ 3/79	9	35	138.1	56.0	56.0	504.1
33	7/ 3/79	9	36	78.9	57.3	57.3	505.4
33	7/ 3/79	9	40	98.7	63.9	63.9	512.0
33	7/ 3/79	9	42	157.8	69.2	69.2	517.2
33	7/ 3/79	9	45	52.6	71.8	71.8	519.9
33	7/ 3/79	9	54	8.8	73.1	73.1	521.2
33	7/ 3/79	11	2	0.5	73.7	73.7	521.7
33	7/ 3/79			NO DATA	0.0	73.7	521.7
33	7/ 3/79			NO DATA	5.1	78.7	526.8
33	7/10/79			NO DATA	0.0	0.0	526.8
33	7/10/79			NO DATA	1.3	1.3	528.0
33	7/13/79	9	38	0.0	0.0	0.0	528.0
33	7/13/79	9	44	41.1	4.1	4.1	532.2
33	7/13/79	9	47	36.0	5.9	5.9	534.0
33	7/13/79	9	52	55.5	10.5	10.5	538.6
33	7/13/79	10	3	14.0	13.1	13.1	541.2
33	7/13/79	10	10	4.4	13.6	13.6	541.7
33	7/13/79	10	20	7.7	14.9	14.9	543.0
33	7/13/79	11	35	0.6	15.7	15.7	543.7
33	7/13/79	19	58	0.0	15.7	15.7	543.7
33	7/13/79	20	6	67.5	24.7	24.7	552.7
33	7/13/79	20	20	5.5	26.0	26.0	554.0
33	7/14/79	0	43	0.3	27.3	1.3	555.3
33	7/14/79	0	50	97.0	38.6	12.6	566.6
33	7/14/79	1	0	20.1	41.9	15.9	570.0
33	7/14/79	1	4	50.1	45.3	19.3	573.3
33	7/14/79	1	9	46.3	49.1	23.1	577.2
33	7/14/79	1	10	154.3	51.7	25.7	579.7
33	7/14/79	1	13	46.3	54.0	28.0	582.0
33	7/14/79	1	25	1.3	54.3	28.3	582.3
33	7/14/79	1	31	36.0	57.9	31.9	585.9
33	7/14/79	2	30	1.0	58.9	32.9	586.9
33	7/14/79	2	35	9.3	59.7	33.7	587.7
33	7/14/79	3	30	1.1	60.7	34.7	588.7
33	7/14/79	4	0	1.5	61.5	35.5	589.5
33	7/14/79	4	20	1.5	62.0	36.0	590.0
33	7/14/79	4	52	1.0	62.5	36.5	590.5
33	7/14/79	5	30	0.4	62.7	36.8	590.8
33	7/19/79			NO DATA	0.0	0.0	590.8
33	7/19/79			NO DATA	2.5	2.5	593.3
33	7/24/79			NO DATA	0.0	0.0	593.3
33	7/24/79			NO DATA	3.8	3.8	597.1
33	7/29/79			NO DATA	0.0	0.0	597.1
33	7/29/79			NO DATA	3.3	3.3	600.4
33	7/30/79			NO DATA	0.0	0.0	600.4
33	7/30/79			NO DATA	2.0	2.0	602.5
33	8/ 1/79			NO DATA	0.0	0.0	602.5

TABLE B1- 3. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	8/ 1/79			NO DATA	0.5	0.5	603.0
33	8/ 8/79	19	51	0.0	0.0	0.0	603.0
33	8/ 8/79	19	57	13.1	1.3	1.3	604.3
33	8/ 8/79	19	59	70.6	3.7	3.7	606.6
33	8/ 8/79	20	8	34.8	8.9	8.9	611.9
33	8/ 8/79	20	10	7.8	9.1	9.1	612.1
33	8/ 8/79	20	13	15.7	9.9	9.9	612.9
33	8/ 8/79	20	15	78.4	12.5	12.5	615.5
33	8/ 8/79	20	20	21.9	14.4	14.4	617.3
33	8/ 8/79	20	25	9.4	15.2	15.2	618.1
33	8/ 8/79	20	40	2.1	15.7	15.7	618.6
33	8/ 8/79	21	38	0.3	15.9	15.9	618.9
33	8/ 8/79	21	40	15.7	16.5	16.5	619.4
33	8/ 8/79	21	54	2.2	17.0	17.0	620.0
33	8/ 8/79	22	5	1.4	17.2	17.2	620.2
33	8/ 8/79	22	28	2.7	18.3	18.3	621.3
33	8/ 9/79			NO DATA	0.0	0.0	621.3
33	8/ 9/79			NO DATA	5.1	5.1	626.3
33	8/13/79			NO DATA	0.0	0.0	626.3
33	8/13/79			NO DATA	1.3	1.3	627.6
33	8/19/79	2	20	0.0	0.0	0.0	627.6
33	8/19/79	2	23	25.0	1.3	1.3	628.9
33	8/19/79	2	30	113.6	14.5	14.5	642.1
33	8/19/79	2	34	63.8	18.8	18.8	646.4
33	8/19/79	2	38	26.3	20.5	20.5	648.1
33	8/19/79	2	42	11.3	21.3	21.3	648.9
33	8/19/79	2	57	4.0	22.3	22.3	649.9
33	8/19/79	2	58	30.0	22.8	22.8	650.4
33	8/19/79	3	22	5.6	25.0	25.0	652.6
33	8/19/79	3	37	3.0	25.8	25.8	653.4
33	8/19/79	3	49	3.8	26.5	26.5	654.1
33	8/19/79	4	8	2.4	27.3	27.3	654.9
33	8/19/79	5	22	0.2	27.5	27.5	655.1
33	8/19/79	5	27	45.0	31.3	31.3	658.9
33	8/19/79	5	32	15.0	32.5	32.5	660.1
33	8/19/79	5	35	25.0	33.8	33.8	661.4
33	8/19/79	5	37	15.0	34.3	34.3	661.9
33	8/19/79	5	38	45.0	35.0	35.0	662.6
33	8/19/79	5	44	25.0	37.5	37.5	665.1
33	8/19/79	5	53	3.3	38.0	38.0	665.6
33	8/19/79	5	59	32.5	41.3	41.3	668.9
33	8/19/79	6	2	30.0	42.8	42.8	670.4
33	8/19/79	6	8	10.0	43.8	43.8	671.4
33	8/19/79	6	12	3.8	44.0	44.0	671.6
33	8/19/79	6	17	12.0	45.0	45.0	672.6
33	8/19/79	6	23	10.0	46.0	46.0	673.6
33	8/19/79	6	27	15.0	47.0	47.0	674.6
33	8/19/79	6	31	3.8	47.3	47.3	674.9
33	8/19/79	6	37	2.5	47.5	47.5	675.1
33	8/19/79	6	49	2.5	48.0	48.0	675.6
33	8/19/79	6	54	6.0	48.5	48.5	676.1
33	8/19/79	6	57	15.0	49.3	49.3	676.9
33	8/19/79	20	25	0.0	0.0	49.3	676.9
33	8/19/79	20	30	14.9	1.2	50.5	678.1
33	8/19/79	20	42	3.7	2.0	51.3	678.9
33	8/19/79	20	54	1.2	2.2	51.5	679.1
33	8/19/79	21	0	9.9	3.2	52.5	680.1
33	8/19/79	21	3	14.9	4.0	53.3	680.9
33	8/19/79	21	5	44.7	5.5	54.7	682.3
33	8/19/79	21	15	6.0	6.5	55.7	683.3
33	8/19/79	21	20	14.9	7.7	57.0	684.6
33	8/19/79	21	32	22.4	12.2	61.5	689.1
33	8/19/79	21	36	11.2	12.9	62.2	689.8
33	8/19/79	21	41	3.0	13.2	62.4	690.1
33	8/19/79	21	46	17.9	14.7	63.9	691.5
33	8/19/79	21	59	2.3	15.2	64.4	692.0
33	8/19/79	22	18	0.8	15.4	64.7	692.3
33	8/19/79	22	21	29.8	16.9	66.2	693.8
33	8/19/79	22	27	14.9	18.4	67.7	695.3
33	8/19/79	22	50	1.3	18.9	68.2	695.8
33	8/19/79	22	57	12.8	20.4	69.7	697.3
33	8/19/79	23	7	3.0	20.9	70.2	697.8
33	8/19/79	23	39	0.9	21.4	70.7	698.3
33	8/20/79	0	52	0.6	22.1	7	699.0
33	8/20/79	1	14	2.7	23.1	1.7	700.0
33	8/21/79	18	31	0.0	0.0	0.0	700.0
33	8/21/79	18	34	9.9	0.5	0.5	700.5
33	8/21/79	18	38	3.7	0.7	0.7	700.7
33	8/21/79	18	42	33.4	3.0	3.0	703.0
33	8/21/79	18	50	74.2	12.9	12.9	712.9
33	8/21/79	18	52	37.1	14.1	14.1	714.1
33	8/21/79	18	59	55.1	20.5	20.5	720.5
33	8/21/79	19	1	22.3	21.3	21.3	721.3
33	8/21/79	19	4	24.7	22.5	22.5	722.5
33	8/21/79	19	12	11.1	24.0	24.0	724.0
33	8/21/79	19	17	14.8	25.2	25.2	725.2
33	8/21/79	19	23	2.5	25.5	25.5	725.5
33	8/21/79	19	33	5.9	26.5	26.5	726.5
33	8/21/79	19	57	3.1	27.7	27.7	727.7
33	8/21/79	20	5	5.6	28.4	28.4	728.4
33	8/22/79			NO DATA	0.0	0.0	728.4
33	8/22/79			NO DATA	3.8	3.8	732.3
33	8/26/79			NO DATA	0.0	0.0	732.3
33	8/26/79			NO DATA	3.8	3.8	736.1
33	8/28/79			NO DATA	0.0	0.0	736.1

TABLE B1- 3. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	8/28/79			NO DATA	2.0	2.0	738.1
33	9/ 5/79	19	46	0.0	0.0	0.0	738.1
33	9/ 5/79	19	50	14.2	0.9	0.9	739.0
33	9/ 5/79	19	53	28.4	2.4	2.4	740.5
33	9/ 5/79	20	4	1.3	2.6	2.6	740.7
33	9/ 5/79	20	8	10.7	3.3	3.3	741.4
33	9/ 5/79	20	35	1.1	3.8	3.8	741.9
33	9/ 5/79	21	0	4.5	5.7	5.7	743.8
33	9/ 5/79	21	10	5.7	6.6	6.6	744.7
33	9/ 5/79	21	20	4.3	7.3	7.3	745.4
33	9/ 5/79	21	33	6.6	8.8	8.8	746.8
33	9/ 5/79	21	50	3.3	9.7	9.7	747.8
33	9/ 5/79	22	10	2.1	10.4	10.4	748.5
33	9/24/79			NO DATA	0.0	0.0	748.5
33	9/24/79			NO DATA	18.3	18.3	766.8
33	10/ 1/79	9	40	0.0	0.0	0.0	766.8
33	10/ 1/79	9	50	2.8	0.5	0.5	767.3
33	10/ 1/79	11	36	0.1	0.7	0.7	767.5
33	10/ 1/79	11	47	3.8	1.4	1.4	768.2
33	10/ 1/79	11	51	7.0	1.9	1.9	768.7
33	10/ 1/79	12	5	1.0	2.1	2.1	768.9
33	10/ 1/79	12	10	16.8	3.5	3.5	770.3
33	10/ 1/79	12	41	0.9	4.0	4.0	770.7
33	10/ 1/79	12	49	1.7	4.2	4.2	771.0
33	10/ 1/79	13	7	7.8	6.5	6.5	773.3
33	10/ 1/79	13	25	3.1	7.5	7.5	774.2
33	10/ 1/79	13	46	0.7	7.7	7.7	774.5
33	10/ 1/79	14	35	0.9	8.4	8.4	775.2
33	10/ 3/79			NO DATA	0.0	0.0	775.2
33	10/ 3/79			NO DATA	3.0	3.0	778.2
33	10/11/79			NO DATA	0.0	0.0	778.2
33	10/11/79			NO DATA	2.5	2.5	780.8
33	10/18/79	22	20	0.0	0.0	0.0	780.8
33	10/18/79	22	27	6.7	0.8	0.8	781.5
33	10/18/79	22	40	6.0	2.1	2.1	782.9
33	10/18/79	22	47	2.2	2.4	2.4	783.1
33	10/18/79	22	55	15.7	4.5	4.5	785.2
33	10/18/79	23	3	3.9	5.0	5.0	785.7
33	10/18/79	23	7	15.7	6.0	6.0	786.8
33	10/18/79	23	20	3.6	6.8	6.8	787.6
33	10/18/79	23	26	5.2	7.3	7.3	788.1
33	10/18/79	23	35	22.7	10.7	10.7	791.5
33	10/18/79	23	40	6.3	11.3	11.3	792.0
33	10/18/79	23	44	55.0	14.9	14.9	795.7
33	10/19/79	0	10	4.8	17.0	2.1	797.8
33	10/21/79	22	34	0.0	0.0	0.0	797.8
33	10/21/79	22	35	76.0	1.3	1.3	799.0
33	10/21/79	22	36	76.0	2.5	2.5	800.3
33	10/21/79	22	38	38.0	3.8	3.8	801.6
33	10/21/79	22	46	3.8	4.3	4.3	802.1
33	10/21/79	22	49	15.2	5.1	5.1	802.8
33	10/21/79	23	1	2.5	5.6	5.6	803.3
33	10/21/79	23	13	8.9	7.3	7.3	805.1
33	10/21/79	23	21	7.6	8.4	8.4	806.1
33	10/21/79	23	23	30.4	9.4	9.4	807.1
33	10/22/79	0	3	2.7	11.1	1.8	808.9
33	10/22/79	0	48	1.0	11.9	2.5	809.7
33	10/22/79	1	3	3.0	12.7	3.3	810.4
33	10/22/79	1	43	1.5	13.7	4.3	811.4
33	10/22/79	1	51	3.8	14.2	4.8	812.0
33	10/22/79	2	7	2.8	14.9	5.6	812.7
33	10/22/79	2	14	2.2	15.2	5.8	813.0
33	10/22/79	2	25	4.1	15.9	6.6	813.7
33	10/22/79	3	13	0.6	16.5	7.1	814.2
33	10/22/79	3	42	2.6	17.7	8.4	815.5
33	10/22/79	4	5	4.6	19.5	10.1	817.3
33	10/22/79	4	33	7.1	22.8	13.4	820.6
33	10/22/79	4	53	6.8	25.1	15.7	822.8
33	10/22/79	5	18	9.7	29.1	19.7	826.9
33	10/22/79	5	33	10.1	31.6	22.3	829.4
33	10/22/79	5	50	8.9	34.2	24.8	831.9
33	10/22/79	6	3	7.0	35.7	26.3	833.5
33	10/22/79	6	16	10.5	38.0	28.6	835.7
33	10/22/79	6	33	6.3	39.7	30.4	837.5
33	10/22/79	6	54	5.8	41.8	32.4	839.5
33	10/22/79	7	13	4.0	43.0	33.7	840.8
33	10/22/79	7	30	13.4	46.8	37.5	844.6
33	10/22/79	7	43	3.5	47.6	38.2	845.4
33	10/22/79	8	8	7.3	50.6	41.3	848.4
33	10/22/79	8	25	3.6	51.6	42.3	849.4
33	10/22/79	8	59	1.3	52.4	43.0	850.2
33	10/22/79	9	8	3.4	52.9	43.5	850.7
33	10/22/79	9	17	1.7	53.2	43.8	850.9
33	10/22/79	9	21	7.6	53.7	44.3	851.4
33	10/22/79	9	38	0.9	53.9	44.6	851.7
33	10/22/79	9	53	4.1	54.9	45.6	852.7
33	10/22/79	10	3	4.6	55.7	46.3	853.5
33	10/22/79	10	13	3.0	56.2	46.8	854.0
33	10/22/79	10	28	13.2	59.5	50.1	857.3
33	10/22/79	10	58	2.5	60.8	51.4	858.5
33	10/22/79	11	3	15.2	62.0	52.7	859.8
33	10/22/79	11	18	3.0	62.8	53.4	860.5
33	10/22/79	11	33	4.1	63.8	54.4	861.6
33	10/22/79	11	40	10.8	65.1	55.7	862.8
33	10/22/79	11	53	15.2	68.3	59.0	866.1
33	10/22/79	12	3	6.1	69.4	60.0	867.1
33	10/22/79	12	17	3.3	70.1	60.8	867.9

TABLE B1- 3. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	10/22/79	12	23	2.5	70.4	61.0	868.1
33	10/22/79	13	23	0.5	70.9	61.5	868.6
33	10/22/79	18	23	0.0	70.9	61.5	868.6
33	10/22/79	21	33	0.6	72.9	63.5	870.7
33	10/22/79	22	3	1.0	73.4	64.0	871.2
33	10/22/79	22	26	1.3	73.9	64.6	871.7
33	10/23/79	0	43	0.3	74.7	0.8	872.4
33	10/31/79	5	30	0.0	0.0	0.0	872.4
33	10/31/79	6	40	0.9	1.1	1.1	873.5
33	10/31/79	8	7	0.4	1.6	1.6	874.0
33	10/31/79	8	10	16.0	2.4	2.4	874.8
33	10/31/79	8	42	1.0	2.9	2.9	875.4
33	10/31/79	8	49	6.8	3.7	3.7	876.2
33	10/31/79	8	55	2.7	4.0	4.0	876.4
33	10/31/79	9	0	6.4	4.5	4.5	877.0
33	10/31/79	9	10	3.2	5.1	5.1	877.5
33	10/31/79	9	17	9.1	6.1	6.1	878.6
33	10/31/79	9	36	5.0	7.7	7.7	880.2
33	10/31/79	9	50	5.7	9.0	9.0	881.5
33	10/31/79	10	0	3.2	9.6	9.6	882.0
33	10/31/79	10	30	1.1	10.1	10.1	882.6
33	10/31/79	11	0	2.1	11.2	11.2	883.6
33	11/ 5/79	7	30	0.0	0.0	0.0	883.6
33	11/ 5/79	9	10	0.7	1.1	1.1	884.8
33	11/ 5/79	9	50	0.9	1.7	1.7	885.3
33	11/ 5/79	11	34	0.2	2.0	2.0	885.6
33	11/ 5/79	11	45	4.7	2.8	2.8	886.5
33	11/ 5/79	12	6	2.4	3.7	3.7	887.3
33	11/ 5/79	12	30	1.4	4.3	4.3	887.9
33	11/ 5/79	14	0	0.6	5.1	5.1	888.7
33	11/ 5/79	15	20	0.4	5.7	5.7	889.3
33	11/ 5/79	15	30	3.4	6.3	6.3	889.9
33	11/ 5/79	15	51	0.8	6.5	6.5	890.2
33	11/ 5/79	16	10	0.9	6.8	6.8	890.4
33	11/ 5/79	16	22	4.3	7.7	7.7	891.3
33	11/ 5/79	17	0	0.4	8.0	8.0	891.6
33	11/ 5/79	17	30	1.1	8.5	8.5	892.1
33	11/ 5/79	18	0	1.1	9.1	9.1	892.7
33	11/ 5/79	18	19	1.8	9.7	9.7	893.3
33	11/ 5/79	18	33	4.9	10.8	10.8	894.4
33	11/ 5/79	20	20	0.6	11.9	11.9	895.6
33	11/ 9/79			SNOW	0.0	0.0	895.6
33	11/ 9/79			SNOW	1.5	1.5	897.1
33	11/12/79			SNOW	0.0	0.0	897.1
33	11/12/79			SNOW	2.5	2.5	899.6
33	11/20/79	20	40	0.0	0.0	0.0	899.6
33	11/21/79	0	5	0.2	0.7	0.7	900.3
33	11/21/79	0	48	4.8	4.1	4.1	903.8
33	11/21/79	1	0	2.4	4.6	4.6	904.2
33	11/21/79	2	0	0.7	5.4	5.4	905.0
33	11/21/79	13	30	0.1	6.1	6.1	905.7
33	11/21/79	15	15	0.4	6.8	6.8	906.4
33	11/21/79	15	20	5.8	7.3	7.3	906.9
33	11/21/79	15	30	17.5	10.2	10.2	909.8
33	11/21/79	15	36	4.9	10.7	10.7	910.3
33	11/21/79	15	40	7.3	11.2	11.2	910.8
33	11/21/79	16	7	0.5	11.4	11.4	911.1
33	11/21/79	16	10	14.6	12.2	12.2	911.8
33	11/21/79	16	25	1.9	12.7	12.7	912.3
33	11/21/79	16	56	0.9	13.2	13.2	912.8
33	11/21/79	17	13	0.9	13.4	13.4	913.0
33	11/21/79	17	23	1.5	13.6	13.6	913.3
33	11/21/79	17	37	5.2	14.9	14.9	914.5
33	11/21/79	18	16	1.5	15.8	15.8	915.4
33	11/21/79	18	24	11.0	17.3	17.3	916.9
33	11/21/79	20	0	0.3	17.8	17.8	917.4

TABLE B1- 4. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1979 GAGE 34

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED PRECIPITATION STORM MM	DAY MM	YEAR MM
34	4/19/79			NO DATA	0.0	0.0	0.0
34	4/19/79			NO DATA	19.1	19.1	19.1
34	4/20/79			NO DATA	0.0	0.0	19.1
34	4/20/79			NO DATA	39.9	39.9	58.9
34	4/25/79	10	35	0.0	0.0	0.0	58.9
34	4/25/79	10	45	5.4	0.9	0.9	59.8
34	4/25/79	11	5	5.4	2.7	2.7	61.6
34	4/25/79	11	35	0.9	3.1	3.1	62.1
34	4/25/79	12	5	1.8	4.0	4.0	62.9
34	4/25/79	15	2	0.5	5.4	5.4	64.3
34	4/25/79	15	15	10.3	7.6	7.6	66.5
34	4/25/79	15	36	3.8	8.9	8.9	67.9
34	4/25/79	15	52	5.0	10.3	10.3	69.2
34	4/25/79	16	28	0.7	10.7	10.7	69.6
34	4/25/79	16	33	10.7	11.6	11.6	70.5
34	4/25/79	16	40	3.8	12.1	12.1	71.0
34	4/25/79	16	55	7.1	13.8	13.8	72.8
34	4/25/79	17	15	2.7	14.7	14.7	73.7
34	4/29/79			NO DATA	0.0	0.0	73.7
34	4/29/79			NO DATA	2.5	2.5	76.2
34	5/ 2/79	9	0	0.0	0.0	0.0	76.2
34	5/ 2/79	9	50	0.3	0.3	0.3	76.5
34	5/ 2/79	10	3	2.5	0.8	0.8	77.0
34	5/ 2/79	10	30	1.2	1.3	1.3	77.5
34	5/ 2/79	10	49	3.4	2.4	2.4	78.6
34	5/ 2/79	11	2	2.5	2.9	2.9	79.1
34	5/ 2/79	11	28	2.5	4.0	4.0	80.2
34	5/ 2/79	12	8	4.4	6.9	6.9	83.1
34	5/ 2/79	12	13	12.8	8.0	8.0	84.2
34	5/ 2/79	12	42	3.3	9.6	9.6	85.8
34	5/ 2/79	13	10	4.6	11.7	11.7	87.9
34	5/ 2/79	13	18	12.0	13.3	13.3	89.5
34	5/ 2/79	13	25	4.6	13.8	13.8	90.0
34	5/ 2/79	13	28	26.6	15.2	15.2	91.4
34	5/ 2/79	13	38	9.6	16.8	16.8	93.0
34	5/ 2/79	13	50	5.3	17.8	17.8	94.0
34	5/ 2/79	13	56	10.7	18.9	18.9	95.1
34	5/ 2/79	14	30	3.8	21.0	21.0	97.2
34	5/ 2/79	15	0	2.7	22.4	22.4	98.6
34	5/ 2/79	15	30	2.1	23.4	23.4	99.6
34	5/ 2/79	16	10	1.2	24.2	24.2	100.4
34	5/ 2/79	17	9	0.8	25.0	25.0	101.2
34	5/ 2/79	17	50	1.2	25.8	25.8	102.0
34	5/ 2/79	18	30	1.2	26.6	26.6	102.8
34	5/ 2/79	19	5	0.5	26.9	26.9	103.1
34	5/ 2/79	20	0	0.6	27.4	27.4	103.6
34	5/ 8/79	0	55	0.0	0.0	0.0	103.6
34	5/ 8/79	1	2	8.2	1.0	1.0	104.6
34	5/ 8/79	1	10	2.4	1.3	1.3	104.9
34	5/ 8/79	1	13	38.4	3.2	3.2	106.8
34	5/ 8/79	1	30	5.6	4.8	4.8	108.4
34	5/ 8/79	1	44	1.4	5.1	5.1	108.7
34	5/ 8/79	1	53	23.5	8.6	8.6	112.3
34	5/10/79			NO DATA	0.0	0.0	112.3
34	5/10/79			NO DATA	5.1	5.1	117.3
34	5/12/79			NO DATA	0.0	0.0	117.3
34	5/12/79			NO DATA	1.3	1.3	118.6
34	5/13/79			NO DATA	0.0	0.0	118.6
34	5/13/79			NO DATA	1.3	1.3	119.9
34	5/18/79	18	0	0.0	0.0	0.0	119.9
34	5/18/79	21	0	0.4	1.3	1.3	121.2
34	5/18/79	21	30	0.6	1.6	1.6	121.5
34	5/18/79	21	50	1.9	2.2	2.2	122.1
34	5/18/79	22	8	5.3	3.8	3.8	123.7
34	5/18/79	22	25	2.3	4.5	4.5	124.4
34	5/18/79	23	32	0.6	5.1	5.1	125.0
34	5/18/79	23	44	9.6	7.0	7.0	126.9
34	5/18/79	23	54	1.9	7.4	7.4	127.2
34	5/18/79	24	0	6.4	8.0	8.0	127.9
34	5/19/79	1	3	0.6	8.6	0.6	128.5
34	5/26/79	9	0	0.0	0.0	0.0	128.5
34	5/26/79	18	1	0.0	0.3	0.3	128.8
34	5/26/79	18	3	45.7	1.8	1.8	130.3
34	5/26/79	18	20	10.8	4.8	4.8	133.3
34	5/26/79	18	45	2.4	5.8	5.8	134.4
34	5/26/79	19	5	1.5	6.3	6.3	134.9
34	5/29/79			NO DATA	0.0	0.0	134.9
34	5/29/79			NO DATA	5.1	5.1	140.0
34	5/30/79			NO DATA	0.0	0.0	140.0
34	5/30/79			NO DATA	0.3	0.3	140.2
34	6/ 4/79			NO DATA	0.0	0.0	140.2
34	6/ 4/79			NO DATA	19.8	19.8	160.0
34	6/ 7/79			NO DATA	0.0	0.0	160.0
34	6/ 7/79			NO DATA	2.5	2.5	162.6
34	6/ 8/79	7	27	0.0	0.0	0.0	162.6
34	6/ 8/79	8	0	2.8	1.5	1.5	164.1
34	6/ 8/79	8	11	8.3	3.0	3.0	165.6
34	6/ 8/79	8	54	1.1	3.8	3.8	166.4
34	6/ 8/79	9	45	2.1	5.6	5.6	168.1

TABLE B1- 4. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
34	6/ 9/79			NO DATA	0.0	0.0	168.1
34	6/ 9/79			NO DATA	16.8	16.8	184.9
34	6/ 9/79			NO DATA	0.0	16.8	184.9
34	6/ 9/79			NO DATA	1.3	18.0	186.2
34	6/12/79	17	50	0.0	0.0	0.0	186.2
34	6/12/79	17	55	9.7	0.8	0.8	187.0
34	6/12/79	18	1	2.7	1.1	1.1	187.3
34	6/12/79	18	5	24.2	2.7	2.7	188.9
34	6/12/79	18	11	61.8	8.9	8.9	195.0
34	6/12/79	18	15	28.2	10.7	10.7	196.9
34	6/12/79	18	18	80.6	14.8	14.8	200.9
34	6/12/79	18	20	177.2	20.7	20.7	206.9
34	6/12/79	18	25	154.7	33.6	33.6	219.7
34	6/12/79	18	27	56.4	35.4	35.4	221.6
34	6/12/79	18	31	20.1	36.8	36.8	223.0
34	6/12/79	18	32	64.5	37.9	37.9	224.0
34	6/12/79	18	45	5.0	38.9	38.9	225.1
34	6/12/79	19	20	0.5	39.2	39.2	225.4
34	6/12/79	20	50	0.7	40.3	40.3	226.5
34	6/12/79	20	57	4.6	40.8	40.8	227.0
34	6/12/79	21	15	1.8	41.4	41.4	227.5
34	6/12/79	21	30	2.1	41.9	41.9	228.1
34	6/12/79	22	37	0.2	42.2	42.2	228.3
34	6/17/79			NO DATA	0.0	0.0	228.3
34	6/17/79			NO DATA	1.3	1.3	229.6
34	6/18/79			NO DATA	0.0	0.0	229.6
34	6/18/79			NO DATA	11.7	11.7	241.3
34	6/19/79			NO DATA	0.0	0.0	241.3
34	6/19/79			NO DATA	11.4	11.4	252.7
34	6/26/79			NO DATA	0.0	0.0	252.7
34	6/26/79			NO DATA	2.5	2.5	255.3
34	6/27/79			NO DATA	0.0	0.0	255.3
34	6/27/79			NO DATA	26.2	26.2	281.4
34	6/28/79			NO DATA	0.0	0.0	281.4
34	6/28/79			NO DATA	0.5	0.5	281.9
34	7/ 3/79	7	40	0.0	0.0	0.0	281.9
34	7/ 3/79	7	54	100.3	23.4	23.4	305.3
34	7/ 3/79	8	0	35.2	26.9	26.9	308.9
34	7/ 3/79	8	8	1.9	27.2	27.2	309.1
34	7/ 3/79	8	20	1.3	27.4	27.4	309.4
34	7/ 3/79	8	24	22.7	28.9	28.9	310.9
34	7/ 3/79	8	43	0.8	29.2	29.2	311.1
34	7/ 3/79	8	52	8.4	30.5	30.5	312.4
34	7/ 3/79	8	57	6.0	31.0	31.0	312.9
34	7/ 3/79	9	2	12.1	32.0	32.0	313.9
34	7/ 3/79	9	4	45.3	33.5	33.5	315.4
34	7/ 3/79	9	17	1.2	33.7	33.7	315.7
34	7/ 3/79	9	23	30.2	36.7	36.7	318.7
34	7/ 3/79	9	30	58.2	43.5	43.5	325.5
34	7/ 3/79	9	32	15.1	44.0	44.0	326.0
34	7/ 3/79	9	37	24.2	46.1	46.1	328.0
34	7/ 3/79	9	41	64.2	50.3	50.3	332.3
34	7/ 3/79	9	47	35.2	53.9	53.9	335.8
34	7/ 3/79	9	55	7.6	54.9	54.9	336.8
34	7/ 3/79	10	7	2.5	55.4	55.4	337.3
34	7/ 3/79			NO DATA	0.0	55.4	337.3
34	7/ 3/79			NO DATA	3.3	58.7	340.6
34	7/10/79			NO DATA	0.0	0.0	340.6
34	7/10/79			NO DATA	3.0	3.0	343.7
34	7/13/79	9	40	0.0	0.0	0.0	343.7
34	7/13/79	9	47	11.6	1.4	1.4	345.0
34	7/13/79	9	50	43.3	3.5	3.5	347.2
34	7/13/79	9	55	32.4	6.2	6.2	349.9
34	7/13/79	10	5	16.2	8.9	8.9	352.6
34	7/13/79	10	11	8.1	9.7	9.7	353.4
34	7/13/79	10	23	1.4	10.0	10.0	353.7
34	7/13/79	20	1	0.0	10.0	10.0	353.7
34	7/13/79	20	7	56.8	15.7	15.7	359.3
34	7/13/79	20	15	4.1	16.2	16.2	359.9
34	7/14/79	0	43	0.2	17.0	0.8	360.7
34	7/14/79	0	50	46.3	22.4	6.2	366.1
34	7/14/79	0	55	6.5	23.0	6.8	366.6
34	7/14/79	1	2	46.3	28.4	12.2	372.0
34	7/14/79	1	9	13.9	30.0	13.8	373.7
34	7/14/79	1	13	109.5	37.3	21.1	381.0
34	7/14/79	1	17	105.4	44.3	28.1	388.0
34	7/14/79	1	23	10.8	45.4	29.2	389.1
34	7/14/79	1	27	20.3	46.8	30.5	390.4
34	7/14/79	1	32	81.1	53.5	37.3	397.2
34	7/14/79	1	40	34.5	58.1	41.9	401.8
34	7/14/79	1	43	70.3	61.6	45.4	405.3
34	7/14/79	1	47	44.6	64.6	48.4	408.3
34	7/14/79	2	13	2.5	65.7	49.5	409.3
34	7/14/79	2	39	1.2	66.2	50.0	409.9
34	7/14/79	2	42	16.2	67.0	50.8	410.7
34	7/14/79	3	52	0.7	67.9	51.6	411.5
34	7/14/79	4	3	17.7	71.1	54.9	414.7
34	7/14/79	4	7	40.5	73.8	57.6	417.4
34	7/14/79	4	11	4.1	74.1	57.9	417.7
34	7/14/79	4	13	32.4	75.2	58.9	418.8
34	7/14/79	4	33	1.6	75.7	59.5	419.3
34	7/19/79			NO DATA	0.0	0.0	419.3

TABLE B1- 4. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
34	7/19/79			NO DATA	0.8	0.8	420.1
34	7/24/79			NO DATA	0.0	0.0	420.1
34	7/24/79			NO DATA	2.0	2.0	422.1
34	7/29/79			NO DATA	0.0	0.0	422.1
34	7/29/79			NO DATA	3.0	3.0	425.2
34	7/30/79			NO DATA	0.0	0.0	425.2
34	7/30/79			NO DATA	1.8	1.8	427.0
34	8/ 1/79			NO DATA	0.0	0.0	427.0
34	8/ 1/79			NO DATA	0.8	0.8	427.7
34	8/ 8/79	19	56	0.0	0.0	0.0	427.7
34	8/ 8/79	19	57	87.4	1.5	1.5	429.2
34	8/ 8/79	20	2	35.0	4.4	4.4	432.1
34	8/ 8/79	20	5	69.9	7.9	7.9	435.6
34	8/ 8/79	20	8	17.5	8.7	8.7	436.5
34	8/ 8/79	20	12	8.7	9.3	9.3	437.0
34	8/ 8/79	20	22	3.5	9.9	9.9	437.6
34	8/ 8/79	20	30	21.9	12.8	12.8	440.5
34	8/ 8/79	21	35	0.5	13.4	13.4	441.1
34	8/ 8/79	21	40	3.5	13.7	13.7	441.4
34	8/ 8/79	21	42	17.5	14.3	14.3	442.0
34	8/ 8/79	21	52	3.5	14.9	14.9	442.6
34	8/ 8/79	21	56	35.0	17.2	17.2	444.9
34	8/ 8/79	22	12	2.2	17.8	17.8	445.5
34	8/ 9/79	20	25	0.0	0.0	0.0	445.5
34	8/ 9/79	20	29	98.5	6.6	6.6	452.1
34	8/ 9/79	20	33	31.1	8.6	8.6	454.1
34	8/19/79	2	22	0.0	0.0	0.0	454.1
34	8/19/79	2	24	118.4	3.9	3.9	458.1
34	8/19/79	2	25	50.7	4.8	4.8	458.9
34	8/19/79	2	30	87.9	12.1	12.1	466.3
34	8/19/79	2	37	21.7	14.7	14.7	468.8
34	8/19/79	2	49	7.0	16.1	16.1	470.2
34	8/19/79	2	52	45.1	18.3	18.3	472.5
34	8/19/79	2	59	4.8	18.9	18.9	473.0
34	8/19/79	3	11	4.2	19.7	19.7	473.9
34	8/19/79	3	14	11.3	20.3	20.3	474.4
34	8/19/79	3	44	5.1	22.8	22.8	477.0
34	8/19/79	5	18	0.2	23.1	23.1	477.2
34	8/19/79	5	21	33.8	24.8	24.8	478.9
34	8/19/79	5	28	9.7	25.9	25.9	480.1
34	8/19/79	5	31	33.8	27.6	27.6	481.8
34	8/19/79	5	40	7.5	28.7	28.7	482.9
34	8/19/79	5	47	24.2	31.6	31.6	485.7
34	8/19/79	5	50	56.4	34.4	34.4	488.5
34	8/19/79	5	57	2.4	34.7	34.7	488.8
34	8/19/79	6	2	40.6	38.1	38.1	492.2
34	8/19/79	6	4	16.9	38.6	38.6	492.7
34	8/19/79	6	8	21.1	40.0	40.0	494.2
34	8/19/79	6	28	4.2	41.4	41.4	495.6
34	8/19/79	6	37	3.8	42.0	42.0	496.1
34	8/19/79	7	44	1.5	43.7	43.7	497.8
34	8/19/79	20	49	0.0	0.0	43.7	497.8
34	8/19/79	20	55	16.8	1.7	45.4	499.5
34	8/19/79	20	56	50.4	2.5	46.2	500.3
34	8/19/79	21	0	12.6	3.4	47.1	501.2
34	8/19/79	21	2	50.4	5.0	48.7	502.9
34	8/19/79	21	12	13.4	7.3	51.0	505.1
34	8/19/79	21	24	15.4	10.4	54.1	508.2
34	8/19/79	21	27	28.0	11.8	55.5	509.6
34	8/19/79	21	37	5.0	12.6	56.3	510.4
34	8/19/79	21	41	29.4	14.6	58.3	512.4
34	8/19/79	21	47	39.2	18.5	62.2	516.3
34	8/19/79	21	59	1.4	18.8	62.5	516.6
34	8/19/79	22	4	16.8	20.2	63.9	518.0
34	8/19/79	22	9	3.4	20.5	64.1	518.3
34	8/19/79	22	19	6.7	21.6	65.3	519.4
34	8/19/79	22	23	4.2	21.9	65.5	519.7
34	8/19/79	22	28	10.1	22.7	66.4	520.5
34	8/19/79	22	32	67.3	27.2	70.9	525.0
34	8/19/79	22	50	1.9	27.7	71.4	525.6
34	8/19/79	22	53	22.4	28.9	72.5	526.7
34	8/19/79	22	54	84.1	30.3	74.0	528.1
34	8/19/79	22	59	13.5	31.4	75.1	529.2
34	8/20/79	0	36	0.3	31.9	0.6	529.8
34	8/20/79	1	4	6.6	35.0	3.6	532.8
34	8/20/79	1	24	0.8	35.3	3.9	533.1
34	8/21/79	18	39	0.0	0.0	0.0	533.1
34	8/21/79	18	43	57.4	3.8	3.8	536.9
34	8/21/79	18	48	42.1	7.3	7.3	540.5
34	8/21/79	18	51	146.6	14.7	14.7	547.8
34	8/21/79	18	54	63.8	17.9	17.9	551.0
34	8/21/79	18	58	47.8	21.0	21.0	554.2
34	8/21/79	19	0	47.8	22.6	22.6	555.8
34	8/21/79	19	12	23.9	27.4	27.4	560.5
34	8/21/79	19	20	12.0	29.0	29.0	562.1
34	8/21/79	19	53	2.9	30.6	30.6	563.7
34	8/21/79	20	20	1.4	31.2	31.2	564.4
34	8/22/79			NO DATA	0.0	0.0	564.4
34	8/22/79			NO DATA	1.3	1.3	565.6
34	8/26/79			NO DATA	0.0	0.0	565.6
34	8/26/79			NO DATA	0.5	0.5	566.1
34	8/28/79			NO DATA	0.0	0.0	566.1

TABLE B1- 4. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
34	8/28/79			NO DATA	1.3	1.3	567.4
34	9/ 5/79	21	0	0.0	0.0	0.0	567.4
34	9/ 5/79	21	40	10.3	6.9	6.9	574.3
34	9/ 5/79	21	55	5.0	8.1	8.1	575.6
34	9/ 5/79	22	38	1.7	9.4	9.4	576.8
34	9/24/79	5	10	0.0	0.0	0.0	576.8
34	9/24/79	5	18	15.2	2.0	2.0	578.8
34	9/24/79	6	10	1.2	3.0	3.0	579.9
34	9/24/79	6	30	1.5	3.6	3.6	580.4
34	9/24/79	6	40	4.6	4.3	4.3	581.1
34	9/24/79	6	52	2.5	4.8	4.8	581.6
34	9/24/79	7	10	3.4	5.8	5.8	582.7
34	9/24/79	9	23	0.1	6.1	6.1	582.9
34	9/24/79	9	37	1.1	6.3	6.3	583.2
34	9/24/79	10	15	1.2	7.1	7.1	583.9
34	9/24/79	10	43	0.5	7.4	7.4	584.2
34	9/24/79	10	55	2.5	7.9	7.9	584.7
34	9/24/79	11	5	1.5	8.1	8.1	584.9
34	9/24/79	11	28	3.3	9.4	9.4	586.2
34	10/ 1/79	9	15	0.0	0.0	0.0	586.2
34	10/ 1/79	9	40	2.0	0.8	0.8	587.0
34	10/ 1/79	9	45	6.7	1.4	1.4	587.6
34	10/ 1/79	11	38	0.1	1.7	1.7	587.9
34	10/ 1/79	11	42	4.2	2.0	2.0	588.2
34	10/ 1/79	12	15	0.5	2.2	2.2	588.4
34	10/ 1/79	12	25	1.7	2.5	2.5	588.7
34	10/ 1/79	12	45	0.8	2.8	2.8	589.0
34	10/ 1/79	12	50	3.4	3.1	3.1	589.3
34	10/ 1/79	12	59	1.9	3.4	3.4	589.6
34	10/ 1/79	13	14	4.5	4.5	4.5	590.7
34	10/ 1/79	13	20	2.8	4.7	4.7	591.0
34	10/ 1/79	13	35	3.4	5.6	5.6	591.8
34	10/ 3/79			NO DATA	0.0	0.0	591.8
34	10/ 3/79			NO DATA	2.0	2.0	593.8
34	10/11/79			NO DATA	0.0	0.0	593.8
34	10/11/79			NO DATA	3.8	3.8	597.6
34	10/18/79	22	35	0.0	0.0	0.0	597.6
34	10/18/79	22	52	3.9	1.1	1.1	598.7
34	10/18/79	22	55	11.1	1.7	1.7	599.3
34	10/18/79	23	3	4.2	2.2	2.2	599.8
34	10/18/79	23	7	20.8	3.6	3.6	601.2
34	10/18/79	23	20	1.3	3.9	3.9	601.5
34	10/18/79	23	30	3.3	4.4	4.4	602.1
34	10/18/79	23	35	33.3	7.2	7.2	604.8
34	10/18/79	23	42	4.8	7.8	7.8	605.4
34	10/18/79	23	45	61.0	10.8	10.8	608.4
34	10/19/79	0	10	3.3	12.2	1.4	609.8
34	10/21/79	22	28	0.0	0.0	0.0	609.8
34	10/21/79	22	40	2.7	0.5	0.5	610.4
34	10/21/79	22	50	4.9	1.4	1.4	611.2
34	10/21/79	22	58	6.2	2.2	2.2	612.0
34	10/21/79	23	1	11.0	2.7	2.7	612.6
34	10/21/79	23	11	4.9	3.6	3.6	613.4
34	10/21/79	23	14	21.9	4.7	4.7	614.5
34	10/22/79	0	9	2.7	7.1	2.5	616.9
34	10/22/79	0	40	0.5	7.4	2.7	617.2
34	10/22/79	0	54	4.7	8.5	3.8	618.3
34	10/22/79	1	40	1.4	9.6	4.9	619.4
34	10/22/79	1	50	3.3	10.1	5.5	620.0
34	10/22/79	2	0	3.3	10.7	6.0	620.5
34	10/22/79	2	7	2.3	11.0	6.3	620.8
34	10/22/79	2	18	6.0	12.1	7.4	621.9
34	10/22/79	3	4	0.4	12.3	7.7	622.2
34	10/22/79	3	32	2.3	13.4	8.8	623.2
34	10/22/79	3	50	5.5	15.1	10.4	624.9
34	10/22/79	4	0	3.3	15.6	11.0	625.4
34	10/22/79	4	38	7.4	20.3	15.6	630.1
34	10/22/79	5	0	9.0	23.6	18.9	633.4
34	10/22/79	5	10	9.9	25.2	20.5	635.0
34	10/22/79	5	30	11.5	29.0	24.4	638.9
34	10/22/79	5	40	11.5	31.0	26.3	640.8
34	10/22/79	6	5	7.9	34.2	29.6	644.1
34	10/22/79	6	30	6.6	37.0	32.3	646.8
34	10/22/79	6	48	4.6	38.4	33.7	648.2
34	10/22/79	6	54	11.0	39.4	34.8	649.3
34	10/22/79	6	57	16.4	40.3	35.6	650.1
34	10/22/79	7	5	6.2	41.1	36.4	650.9
34	10/22/79	7	15	11.5	43.0	38.4	652.8
34	10/22/79	7	28	8.9	44.9	40.3	654.7
34	10/22/79	7	37	5.5	45.8	41.1	655.6
34	10/22/79	7	47	6.6	46.8	42.2	656.7
34	10/22/79	8	0	11.4	49.3	44.7	659.1
34	10/22/79	8	11	7.5	50.7	46.0	660.5
34	10/22/79	8	30	1.7	51.2	46.6	661.0
34	10/22/79	8	55	2.0	52.1	47.4	661.9
34	10/22/79	9	2	4.7	52.6	47.9	662.4
34	10/22/79	9	11	5.5	53.4	48.8	663.2
34	10/22/79	9	30	0.9	53.7	49.0	663.5
34	10/22/79	9	41	6.0	54.8	50.1	664.6
34	10/22/79	9	50	3.7	55.3	50.7	665.2
34	10/22/79	10	0	1.6	55.6	51.0	665.4
34	10/22/79	10	8	4.1	56.2	51.5	666.0
34	10/22/79	10	16	20.5	58.9	54.2	668.7
34	10/22/79	10	28	6.8	60.3	55.6	670.1
34	10/22/79	10	52	3.4	61.6	57.0	671.5
34	10/22/79	11	0	8.2	62.7	58.1	672.6
34	10/22/79	11	13	2.5	63.3	58.6	673.1

TABLE B1- 4. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
34	10/22/79	11	20	7.0	64.1	59.4	673.9
34	10/22/79	11	28	4.1	64.7	60.0	674.5
34	10/22/79	11	44	14.4	68.5	63.8	678.3
34	10/22/79	11	50	13.7	69.9	65.2	679.7
34	10/22/79	11	57	7.0	70.7	66.0	680.5
34	10/22/79	12	20	2.1	71.5	66.8	681.3
34	10/22/79	15	35	0.3	72.3	67.7	682.1
34	10/22/79	18	30	0.2	72.9	68.2	682.7
34	10/22/79	20	30	0.5	74.0	69.3	683.8
34	10/22/79	21	0	1.1	74.5	69.9	684.3
34	10/22/79	22	0	0.8	75.3	70.7	685.2
34	10/22/79	22	15	1.1	75.6	71.0	685.4
34	10/22/79	23	30	0.4	76.2	71.5	686.0
34	10/23/79	0	30	0.5	76.7	0.5	686.5
34	10/31/79	5	30	0.0	0.0	0.0	686.5
34	10/31/79	6	0	1.7	0.9	0.9	687.4
34	10/31/79	6	34	0.5	1.1	1.1	687.7
34	10/31/79	6	40	2.9	1.4	1.4	688.0
34	10/31/79	8	4	0.2	1.7	1.7	688.2
34	10/31/79	8	10	8.6	2.6	2.6	689.1
34	10/31/79	8	36	1.3	3.2	3.2	689.7
34	10/31/79	8	46	5.2	4.0	4.0	690.5
34	10/31/79	8	50	0.0	4.0	4.0	690.5
34	10/31/79	8	58	6.4	4.9	4.9	691.4
34	10/31/79	9	5	2.5	5.2	5.2	691.7
34	10/31/79	9	13	6.4	6.0	6.0	692.5
34	10/31/79	9	23	6.9	7.2	7.2	693.7
34	10/31/79	9	50	4.5	9.2	9.2	695.7
34	10/31/79	10	0	1.7	9.5	9.5	696.0
34	10/31/79	10	24	1.4	10.0	10.0	696.6
34	10/31/79	11	0	1.9	11.2	11.2	697.7
34	11/ 5/79	7	30	0.0	0.0	0.0	697.7
34	11/ 5/79	8	51	1.0	1.3	1.3	699.0
34	11/ 5/79	9	30	0.5	1.6	1.6	699.3
34	11/ 5/79	11	20	0.2	1.9	1.9	699.6
34	11/ 5/79	11	30	3.9	2.6	2.6	700.3
34	11/ 5/79	11	34	9.7	3.2	3.2	700.9
34	11/ 5/79	11	54	1.9	3.9	3.9	701.6
34	11/ 5/79	12	8	1.4	4.2	4.2	701.9
34	11/ 5/79	12	18	3.9	4.8	4.8	702.5
34	11/ 5/79	13	30	0.3	5.2	5.2	702.9
34	11/ 5/79	13	46	1.2	5.5	5.5	703.2
34	11/ 5/79	15	6	0.2	5.8	5.8	703.5
34	11/ 5/79	15	15	4.3	6.5	6.5	704.2
34	11/ 5/79	15	39	0.8	6.8	6.8	704.5
34	11/ 5/79	15	45	3.2	7.1	7.1	704.8
34	11/ 5/79	16	3	3.2	8.1	8.1	705.8
34	11/ 5/79	16	50	0.8	8.7	8.7	706.4
34	11/ 5/79	17	15	0.8	9.0	9.0	706.7
34	11/ 5/79	17	50	1.1	9.7	9.7	707.4
34	11/ 5/79	18	10	1.9	10.3	10.3	708.0
34	11/ 5/79	18	37	2.2	11.3	11.3	709.0
34	11/ 5/79	20	20	0.4	11.9	11.9	709.6

TABLE B1- 5. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1979 GAGE 35

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED PRECIPITATION STORM MM	DAY MM	YEAR MM
35	3/23/79			NO DATA	0.0	0.0	0.0
35	3/23/79			NO DATA	11.4	11.4	11.4
35	3/24/79			SNOW	0.0	0.0	11.4
35	3/24/79			SNOW	11.7	11.7	23.1
35	3/28/79	17	20	0.0	0.0	0.0	23.1
35	3/28/79	17	30	3.5	0.6	0.6	23.7
35	3/28/79	17	42	4.3	1.4	1.4	24.6
35	3/28/79	17	50	15.1	3.5	3.5	26.6
35	3/28/79	17	56	8.6	4.3	4.3	27.4
35	3/28/79	18	35	6.6	8.6	8.6	31.8
35	3/28/79	18	46	4.7	9.5	9.5	32.6
35	3/28/79	19	0	2.5	10.1	10.1	33.2
35	3/28/79	20	0	0.3	10.4	10.4	33.5
35	3/28/79	20	10	1.7	10.7	10.7	33.8
35	3/28/79	20	27	4.1	11.8	11.8	34.9
35	3/28/79	20	43	2.2	12.4	12.4	35.5
35	3/28/79	22	7	0.0	12.4	12.4	35.5
35	3/28/79	22	20	2.7	13.0	13.0	36.1
35	3/28/79	23	45	0.8	14.1	14.1	37.2
35	3/28/79	24	0	3.5	15.0	15.0	38.1
35	3/29/79	0	20	1.7	15.6	0.6	38.7
35	3/29/79	0	24	13.0	16.4	1.4	39.5
35	3/29/79	0	35	3.1	17.0	2.0	40.1
35	3/29/79	0	51	2.2	17.6	2.6	40.7
35	3/29/79	0	57	2.9	17.9	2.9	41.0
35	3/29/79	3	20	0.5	19.0	4.0	42.1
35	3/29/79	5	33	0.0	19.0	4.0	42.1
35	3/29/79	5	39	8.6	19.9	4.9	43.0
35	3/29/79	6	0	0.8	20.2	5.2	43.3
35	3/29/79	6	24	2.9	21.3	6.3	44.4
35	3/29/79	7	44	0.0	21.3	6.3	44.4
35	3/29/79	7	46	69.1	23.6	8.6	46.7
35	4/ 1/79			SNOW	0.0	0.0	46.7
35	4/ 1/79			SNOW	19.3	19.3	66.0
35	4/10/79			NO DATA	0.0	0.0	66.0
35	4/10/79			NO DATA	4.3	4.3	70.4
35	4/19/79	6	5	0.0	0.0	0.0	70.4
35	4/19/79	6	35	1.6	0.8	0.8	71.2
35	4/19/79	6	55	2.5	1.6	1.6	72.0
35	4/19/79	8	20	0.8	2.7	2.7	73.1
35	4/19/79	9	20	1.9	4.7	4.7	75.0
35	4/19/79	10	3	1.2	5.5	5.5	75.9
35	4/19/79	10	49	0.4	5.8	5.8	76.1
35	4/19/79	10	55	13.7	7.1	7.1	77.5
35	4/19/79	11	1	2.7	7.4	7.4	77.8
35	4/19/79	11	10	12.8	9.3	9.3	79.7
35	4/19/79	12	8	0.6	9.9	9.9	80.3
35	4/19/79	12	11	5.5	10.2	10.2	80.5
35	4/19/79	12	25	1.2	10.4	10.4	80.8
35	4/19/79	12	40	5.5	11.8	11.8	82.2
35	4/19/79	12	54	3.5	12.6	12.6	83.0
35	4/19/79	12	59	23.1	14.6	14.6	84.9
35	4/19/79	13	7	6.2	15.4	15.4	85.7
35	4/19/79	13	17	4.9	16.2	16.2	86.6
35	4/19/79	13	23	13.7	17.6	17.6	87.9
35	4/19/79	13	28	39.6	20.9	20.9	91.2
35	4/20/79	1	15	0.0	21.4	0.5	91.8
35	4/20/79	1	24	5.5	22.3	1.4	92.6
35	4/20/79	4	3	0.1	22.5	1.6	92.9
35	4/20/79	4	10	7.1	23.4	2.5	93.7
35	4/20/79	4	18	20.6	26.1	5.2	96.5
35	4/20/79	4	23	6.6	26.7	5.8	97.0
35	4/20/79	4	25	24.7	27.5	6.6	97.8
35	4/20/79	5	48	0.6	28.3	7.4	98.7
35	4/20/79	5	55	4.7	28.9	8.0	99.2
35	4/20/79	6	15	0.8	29.1	8.2	99.5
35	4/20/79	6	54	0.8	29.7	8.8	100.0
35	4/20/79	8	48	0.4	30.5	9.6	100.9
35	4/20/79	8	50	66.0	32.7	11.8	103.1
35	4/20/79	9	13	9.3	36.3	15.4	106.6
35	4/20/79	9	36	2.2	37.1	16.2	107.5
35	4/20/79	10	4	5.9	39.9	19.0	110.2
35	4/20/79	10	53	0.3	40.1	19.2	110.5
35	4/20/79	10	55	33.0	41.2	20.3	111.6
35	4/20/79	11	9	4.7	42.3	21.4	112.7
35	4/20/79	11	14	9.9	43.1	22.3	113.5
35	4/20/79	11	30	2.1	43.7	22.8	114.1
35	4/20/79	12	12	1.2	44.5	23.6	114.9
35	4/20/79	12	15	16.5	45.3	24.5	115.7
35	4/20/79	12	55	7.4	50.3	29.4	120.7
35	4/20/79	13	10	7.7	52.2	31.3	122.6
35	4/20/79	13	25	3.3	53.0	32.2	123.4
35	4/20/79	13	55	1.1	53.6	32.7	124.0
35	4/25/79	10	15	0.0	0.0	0.0	124.0
35	4/25/79	10	25	7.5	1.3	1.3	125.2
35	4/25/79	10	30	21.0	3.0	3.0	127.0
35	4/25/79	10	42	10.0	5.0	5.0	129.0
35	4/25/79	10	56	4.3	6.0	6.0	130.0
35	4/25/79	12	0	1.2	7.3	7.3	131.2
35	4/25/79	14	57	0.3	8.0	8.0	132.0
35	4/25/79	15	12	4.0	9.0	9.0	133.0
35	4/25/79	15	24	6.3	10.3	10.3	134.2
35	4/25/79	15	37	1.2	10.5	10.5	134.5
35	4/25/79	15	45	5.6	11.3	11.3	135.2
35	4/25/79	16	25	1.1	12.0	12.0	136.0
35	4/25/79	16	35	4.5	12.8	12.8	136.7
35	4/25/79	16	45	4.5	13.5	13.5	137.5
35	4/25/79	17	2	4.4	14.8	14.8	138.7

TABLE 81- 5. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
35	4/25/79	17	20	0.8	15.0	15.0	139.0
35	4/25/79	18	50	0.8	16.3	16.3	140.2
35	4/29/79			NO DATA	0.0	0.0	140.2
35	4/29/79			NO DATA	2.0	2.0	142.2
35	5/ 2/79	9	5	0.0	0.0	0.0	142.2
35	5/ 2/79	10	6	1.0	1.0	1.0	143.3
35	5/ 2/79	10	20	9.0	3.1	3.1	145.4
35	5/ 2/79	10	38	3.5	4.2	4.2	146.4
35	5/ 2/79	10	52	2.2	4.7	4.7	147.0
35	5/ 2/79	11	0	5.9	5.5	5.5	147.7
35	5/ 2/79	11	16	2.0	6.0	6.0	148.3
35	5/ 2/79	11	36	3.9	7.3	7.3	149.6
35	5/ 2/79	11	46	7.9	8.6	8.6	150.9
35	5/ 2/79	12	0	2.2	9.2	9.2	151.4
35	5/ 2/79	12	45	3.8	12.0	12.0	154.3
35	5/ 2/79	13	0	3.1	12.8	12.8	155.1
35	5/ 2/79	13	29	4.9	15.2	15.2	157.4
35	5/ 2/79	13	45	2.9	16.0	16.0	158.2
35	5/ 2/79	13	57	5.2	17.0	17.0	159.3
35	5/ 2/79	14	53	3.6	20.4	20.4	162.7
35	5/ 2/79	15	20	2.3	21.5	21.5	163.7
35	5/ 2/79	16	20	0.8	22.3	22.3	164.5
35	5/ 2/79	17	0	0.4	22.5	22.5	164.8
35	5/ 2/79	17	50	1.3	23.6	23.6	165.8
35	5/ 2/79	18	2	1.3	23.8	23.8	166.1
35	5/ 2/79	18	12	3.1	24.3	24.3	166.6
35	5/ 2/79	18	50	1.2	25.1	25.1	167.4
35	5/ 2/79	19	30	0.8	25.7	25.7	167.9
35	5/ 8/79	0	58	0.0	0.0	0.0	167.9
35	5/ 8/79	1	0	33.7	1.1	1.1	169.0
35	5/ 8/79	1	4	8.4	1.7	1.7	169.6
35	5/ 8/79	1	46	3.2	3.9	3.9	171.8
35	5/ 8/79	1	49	16.8	4.8	4.8	172.7
35	5/ 8/79	1	54	6.7	5.3	5.3	173.2
35	5/10/79	16	7	0.0	0.0	0.0	173.2
35	5/10/79	16	9	145.3	4.8	4.8	178.1
35	5/10/79	16	13	22.7	6.4	6.4	179.6
35	5/10/79	16	17	4.5	6.7	6.7	179.9
35	5/10/79	16	27	7.3	7.9	7.9	181.1
35	5/12/79			NO DATA	0.0	0.0	181.1
35	5/12/79			NO DATA	2.0	2.0	183.1
35	5/13/79			NO DATA	0.0	0.0	183.1
35	5/13/79			NO DATA	1.8	1.8	184.9
35	5/18/79	6	33	0.0	0.0	0.0	184.9
35	5/18/79	14	50	0.1	0.8	0.8	185.7
35	5/18/79	15	0	4.7	1.6	1.6	186.5
35	5/18/79	16	7	0.2	1.8	1.8	186.7
35	5/18/79	16	17	1.6	2.1	2.1	187.0
35	5/18/79	17	56	0.2	2.3	2.3	187.3
35	5/18/79	18	27	1.0	2.9	2.9	187.8
35	5/18/79	18	34	6.7	3.7	3.7	188.6
35	5/18/79	18	49	2.1	4.2	4.2	189.1
35	5/18/79	21	54	0.1	4.4	4.4	189.3
35	5/18/79	22	4	1.6	4.7	4.7	189.6
35	5/18/79	22	16	3.9	5.5	5.5	190.4
35	5/18/79	22	27	2.8	6.0	6.0	190.9
35	5/18/79	23	35	0.7	6.8	6.8	191.7
35	5/18/79	23	45	3.1	7.3	7.3	192.2
35	5/18/79	23	54	5.2	8.1	8.1	193.0
35	5/19/79	0	9	1.0	8.4	0.3	193.3
35	5/19/79	0	56	1.3	9.4	1.3	194.3
35	5/26/79	9	5	0.0	0.0	0.0	194.3
35	5/26/79	9	45	0.8	0.6	0.6	194.9
35	5/26/79	10	11	1.9	1.4	1.4	195.7
35	5/26/79	10	19	8.3	2.5	2.5	196.8
35	5/26/79	18	0	0.0	2.5	2.5	196.8
35	5/26/79	18	1	82.8	3.9	3.9	198.2
35	5/26/79	18	3	57.9	5.8	5.8	200.1
35	5/26/79	18	15	4.1	6.6	6.6	200.9
35	5/26/79	18	29	2.4	7.2	7.2	201.5
35	5/26/79	19	5	4.1	9.7	9.7	204.0
35	5/29/79	6	28	0.0	0.0	0.0	204.0
35	5/29/79	6	30	17.1	0.6	0.6	204.5
35	5/29/79	6	34	123.7	8.8	8.8	212.8
35	5/29/79	6	44	8.5	10.2	10.2	214.2
35	5/29/79	7	35	0.0	10.2	10.2	214.2
35	5/29/79	7	47	7.1	11.7	11.7	215.6
35	5/29/79	8	9	2.3	12.5	12.5	216.5
35	5/29/79	8	15	8.5	13.4	13.4	217.3
35	5/29/79	8	40	1.4	13.9	13.9	217.9
35	5/29/79	9	5	0.7	14.2	14.2	218.2
35	5/30/79			NO DATA	0.0	0.0	218.2
35	5/30/79			NO DATA	0.3	0.3	218.4
35	6/ 4/79	10	18	0.0	0.0	0.0	218.4
35	6/ 4/79	10	28	4.8	0.8	0.8	219.2
35	6/ 4/79	11	38	0.5	1.3	1.3	219.8
35	6/ 4/79	18	20	0.0	1.3	1.3	219.8
35	6/ 4/79	18	28	9.9	2.6	2.6	221.1
35	6/ 4/79	18	31	26.4	4.0	4.0	222.4
35	6/ 4/79	18	34	26.4	5.3	5.3	223.7
35	6/ 4/79	18	43	3.5	5.8	5.8	224.2
35	6/ 4/79	18	45	23.8	6.6	6.6	225.0
35	6/ 4/79	18	50	31.7	9.2	9.2	227.7

TABLE 81- 5. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
35	6/ 4/79	18	55	47.5	13.2	13.2	231.6
35	6/ 4/79	18	58	132.0	19.8	19.8	238.2
35	6/ 4/79	19	1	79.2	23.8	23.8	242.2
35	6/ 4/79	19	14	14.6	26.9	26.9	245.4
35	6/ 7/79			NO DATA	0.0	0.0	245.4
35	6/ 7/79			NO DATA	0.5	0.5	245.9
35	6/ 8/79	7	55	0.0	0.0	0.0	245.9
35	6/ 8/79	8	20	3.2	1.3	1.3	247.2
35	6/ 8/79	8	30	4.0	2.0	2.0	247.9
35	6/ 8/79	8	57	2.2	3.0	3.0	248.9
35	6/ 8/79	9	10	4.6	4.0	4.0	249.9
35	6/ 8/79	9	30	3.0	5.0	5.0	250.9
35	6/ 8/79	9	50	1.0	5.3	5.3	251.2
35	6/ 9/79	6	5	0.0	0.0	0.0	251.2
35	6/ 9/79	6	8	10.2	0.5	0.5	251.7
35	6/ 9/79	8	20	0.0	0.5	0.5	251.7
35	6/ 9/79	8	30	3.0	1.0	1.0	252.2
35	6/ 9/79	8	48	0.8	1.3	1.3	252.5
35	6/ 9/79	8	56	5.7	2.0	2.0	253.2
35	6/ 9/79	8	59	10.2	2.5	2.5	253.7
35	6/ 9/79	9	2	45.7	4.8	4.8	256.0
35	6/ 9/79	9	10	3.8	5.3	5.3	256.5
35	6/ 9/79	9	50	0.4	5.6	5.6	256.8
35	6/ 9/79	10	13	0.7	5.8	5.8	257.0
35	6/ 9/79	10	20	4.4	6.3	6.3	257.6
35	6/ 9/79	10	39	1.6	6.9	6.9	258.1
35	6/ 9/79	10	50	4.2	7.6	7.6	258.8
35	6/ 9/79	11	8	1.7	8.1	8.1	259.3
35	6/ 9/79	11	30	1.4	8.6	8.6	259.8
35	6/ 9/79	11	58	1.1	9.1	9.1	260.3
35	6/ 9/79			NO DATA	0.0	9.1	260.3
35	6/ 9/79			NO DATA	1.3	10.4	261.6
35	6/12/79	17	51	0.0	0.0	0.0	261.6
35	6/12/79	18	0	45.6	6.8	6.8	268.5
35	6/12/79	18	7	9.4	7.9	7.9	269.6
35	6/12/79	18	10	32.8	9.6	9.6	271.2
35	6/12/79	18	15	16.4	10.9	10.9	272.6
35	6/12/79	18	21	82.1	19.2	19.2	280.8
35	6/12/79	18	26	115.0	28.7	28.7	290.3
35	6/12/79	18	33	37.5	33.1	33.1	294.7
35	6/12/79	18	38	9.9	33.9	33.9	295.5
35	6/12/79	18	43	19.7	35.6	35.6	297.2
35	6/12/79	18	59	3.1	36.4	36.4	298.0
35	6/12/79	20	56	0.4	37.2	37.2	298.8
35	6/12/79	21	23	3.0	38.6	38.6	300.2
35	6/12/79	21	43	0.8	38.9	38.9	300.5
35	6/17/79	21	10	0.0	0.0	0.0	300.5
35	6/17/79	21	12	15.9	0.5	0.5	301.0
35	6/17/79	22	0	0.3	0.8	0.8	301.3
35	6/17/79	22	2	7.9	1.1	1.1	301.5
35	6/17/79	22	34	0.5	1.3	1.3	301.8
35	6/17/79	22	45	2.9	1.9	1.9	302.3
35	6/18/79	6	5	0.1	2.4	0.5	302.9
35	6/18/79	6	34	0.5	2.6	0.8	303.1
35	6/18/79	6	39	6.4	3.2	1.3	303.6
35	6/18/79	6	45	15.9	4.8	2.9	305.2
35	6/18/79	6	47	39.7	6.1	4.2	306.6
35	6/18/79	6	49	39.7	7.4	5.6	307.9
35	6/18/79	6	52	26.5	8.7	6.9	309.2
35	6/18/79	6	54	23.8	9.5	7.7	310.0
35	6/18/79	7	1	4.5	10.1	8.2	310.5
35	6/18/79	7	5	23.8	11.6	9.8	312.1
35	6/18/79	7	9	11.9	12.4	10.6	312.9
35	6/18/79	7	20	1.4	12.7	10.8	313.2
35	6/19/79	22	4	0.0	0.0	0.0	313.2
35	6/19/79	22	12	9.8	1.3	1.3	314.5
35	6/19/79	22	14	15.6	1.8	1.8	315.0
35	6/19/79	22	18	7.8	2.3	2.3	315.5
35	6/19/79	22	22	11.7	3.1	3.1	316.3
35	6/19/79	22	30	5.9	3.9	3.9	317.1
35	6/19/79	22	33	46.9	6.2	6.2	319.4
35	6/19/79	22	37	3.9	6.5	6.5	319.7
35	6/19/79	22	39	70.3	8.9	8.9	322.0
35	6/19/79	22	41	23.4	9.6	9.6	322.8
35	6/19/79	22	43	15.6	10.2	10.2	323.3
35	6/19/79	23	0	0.9	10.4	10.4	323.6
35	6/26/79	23	10	0.0	0.0	0.0	323.6
35	6/26/79	23	59	1.0	0.8	0.8	324.4
35	6/27/79	0	3	36.5	3.2	2.4	326.8
35	6/27/79	0	9	94.6	12.7	11.9	336.3
35	6/27/79	0	17	91.2	24.9	24.0	348.4
35	6/27/79	0	20	81.1	28.9	28.1	352.5
35	6/27/79	0	22	121.6	33.0	32.2	356.6
35	6/27/79	0	29	57.9	39.7	38.9	363.3
35	6/27/79	0	32	64.9	43.0	42.2	366.5
35	6/27/79	0	38	21.6	45.1	44.3	368.7
35	6/27/79	0	40	40.5	46.5	45.7	370.1
35	6/27/79	0	53	12.5	49.2	48.4	372.8
35	6/27/79	1	10	2.9	50.0	49.2	373.6
35	6/27/79	1	14	4.1	50.3	49.4	373.8
35	6/27/79	1	25	2.9	50.8	50.0	374.4
35	6/28/79			NO DATA	0.0	0.0	374.4
35	6/28/79			NO DATA	4.3	4.3	378.7
35	7/ 3/79	7	37	0.0	0.0	0.0	378.7

TABLE B1- 5. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
35	7/ 3/79	7	45	69.4	9.2	9.2	388.0
35	7/ 3/79	7	47	38.5	10.5	10.5	389.2
35	7/ 3/79	7	49	77.1	13.1	13.1	391.8
35	7/ 3/79	7	56	30.8	16.7	16.7	395.4
35	7/ 3/79	8	3	57.3	23.4	23.4	402.1
35	7/ 3/79	8	7	46.2	26.5	26.5	405.2
35	7/ 3/79	8	12	24.7	28.5	28.5	407.2
35	7/ 3/79	8	19	48.5	34.2	34.2	412.9
35	7/ 3/79	8	26	15.4	36.0	36.0	414.7
35	7/ 3/79	8	32	25.7	38.5	38.5	417.2
35	7/ 3/79	8	47	2.1	39.1	39.1	417.8
35	7/ 3/79	8	51	3.9	39.3	39.3	418.0
35	7/ 3/79	8	57	46.2	43.9	43.9	422.6
35	7/ 3/79	9	4	11.0	45.2	45.2	423.9
35	7/ 3/79	9	9	15.4	46.5	46.5	425.2
35	7/ 3/79	9	19	3.1	47.0	47.0	425.7
35	7/ 3/79	9	25	46.2	51.6	51.6	430.3
35	7/ 3/79	9	33	61.7	59.9	59.9	438.6
35	7/ 3/79	9	37	115.6	67.6	67.6	446.3
35	7/ 3/79	9	40	41.1	69.6	69.6	448.3
35	7/ 3/79	9	43	102.8	74.8	74.8	453.5
35	7/ 3/79	9	47	115.6	82.5	82.5	461.2
35	7/ 3/79	9	53	51.4	87.6	87.6	466.3
35	7/ 3/79	10	2	8.6	88.9	88.9	467.6
35	7/ 3/79	20	40	0.0	0.0	88.9	467.6
35	7/ 3/79	20	44	6.4	0.4	89.3	468.0
35	7/ 3/79	20	54	37.4	6.7	95.6	474.3
35	7/ 3/79	21	0	4.3	7.1	96.0	474.7
35	7/ 3/79	21	23	1.7	7.7	96.6	475.3
35	7/ 3/79	21	42	2.0	8.4	97.3	476.0
35	7/10/79	20	33	0.0	0.0	0.0	476.0
35	7/10/79	21	58	1.3	1.8	1.8	477.8
35	7/10/79	23	48	0.3	2.4	2.4	478.4
35	7/10/79	23	52	23.8	4.0	4.0	479.9
35	7/11/79	0	10	4.4	5.3	1.3	481.3
35	7/11/79	0	14	11.9	6.1	2.1	482.1
35	7/11/79	0	23	3.5	6.6	2.6	482.6
35	7/13/79	9	50	0.0	0.0	0.0	482.6
35	7/13/79	10	8	12.5	3.7	3.7	486.3
35	7/13/79	10	19	7.3	5.1	5.1	487.7
35	7/13/79	11	23	0.5	5.6	5.6	488.2
35	7/13/79	11	43	0.8	5.9	5.9	488.5
35	7/13/79	20	8	0.0	5.9	5.9	488.5
35	7/13/79	20	13	77.0	12.3	12.3	494.9
35	7/13/79	20	16	42.8	14.4	14.4	497.0
35	7/13/79	20	28	13.4	17.1	17.1	499.7
35	7/13/79	22	44	0.2	17.7	17.7	500.2
35	7/13/79	22	48	4.0	17.9	17.9	500.5
35	7/14/79	0	49	0.3	18.5	0.5	501.0
35	7/14/79	0	53	48.2	21.7	3.7	504.2
35	7/14/79	0	56	80.3	25.7	7.8	508.3
35	7/14/79	1	10	18.3	30.0	12.0	512.5
35	7/14/79	1	15	6.4	30.5	12.6	513.1
35	7/14/79	1	22	89.4	40.9	23.0	523.5
35	7/14/79	1	28	29.4	43.9	25.9	526.5
35	7/14/79	1	34	72.2	51.1	33.2	533.7
35	7/14/79	1	39	80.3	57.8	39.9	540.4
35	7/14/79	1	46	45.9	63.1	45.2	545.7
35	7/14/79	1	52	53.5	68.5	50.6	551.1
35	7/14/79	2	3	8.8	70.1	52.2	552.7
35	7/14/79	2	13	3.2	70.6	52.7	553.2
35	7/14/79	2	23	3.2	71.2	53.2	553.7
35	7/14/79	2	41	2.7	72.0	54.0	554.5
35	7/14/79	2	43	16.1	72.5	54.6	555.1
35	7/14/79	4	3	0.8	73.6	55.6	556.1
35	7/14/79	4	9	10.7	74.6	56.7	557.2
35	7/14/79	4	12	64.2	77.8	59.9	560.4
35	7/14/79	4	16	4.0	78.1	60.2	560.7
35	7/14/79	4	18	32.1	79.2	61.3	561.8
35	7/14/79	4	23	9.6	80.0	62.1	562.6
35	7/14/79	4	25	8.0	80.3	62.3	562.8
35	7/14/79	4	33	2.0	80.5	62.6	563.1
35	7/19/79			NO DATA	0.0	0.0	563.1
35	7/19/79			NO DATA	2.5	2.5	565.6
35	7/24/79			NO DATA	0.0	0.0	565.6
35	7/24/79			NO DATA	2.5	2.5	568.2
35	7/29/79	18	30	0.0	0.0	0.0	568.2
35	7/29/79	20	10	2.3	3.8	3.8	572.0
35	7/30/79	3	55	0.1	4.6	0.8	572.7
35	7/30/79	3	58	50.8	7.1	3.3	575.3
35	7/30/79	4	2	3.8	7.4	3.6	575.5
35	7/30/79	4	5	30.5	8.9	5.1	577.1
35	7/30/79	4	23	0.8	9.1	5.3	577.3
35	7/30/79	4	26	40.6	11.2	7.4	579.4
35	7/30/79	4	30	3.8	11.4	7.6	579.6
35	8/ 1/79			NO DATA	0.0	0.0	579.6
35	8/ 1/79			NO DATA	1.3	1.3	580.9
35	8/ 8/79	19	49	0.0	0.0	0.0	580.9
35	8/ 8/79	19	57	22.9	3.0	3.0	583.9
35	8/ 8/79	20	1	7.6	3.6	3.6	584.4
35	8/ 8/79	20	10	27.1	7.6	7.6	588.5
35	8/ 8/79	20	13	71.1	11.2	11.2	592.1
35	8/ 8/79	20	20	6.5	11.9	11.9	592.8
35	8/ 8/79	20	29	25.4	15.7	15.7	596.6
35	8/ 8/79	20	40	5.5	16.8	16.8	597.6
35	8/ 8/79	20	50	1.5	17.0	17.0	597.9

TABLE B1- 5. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED PRECIPITATION STORM MM	DAY MM	YEAR MM
35	8/ 8/79	20	51	91.5	18.5	18.5	599.4
35	8/ 8/79	21	39	1.3	19.6	19.6	600.4
35	8/ 8/79	21	48	13.5	21.6	21.6	602.5
35	8/ 8/79	22	0	2.5	22.1	22.1	603.0
35	8/ 8/79	22	2	45.7	23.6	23.6	604.5
35	8/ 8/79	22	8	27.9	26.4	26.4	607.3
35	8/ 8/79	22	11	15.2	27.2	27.2	608.1
35	8/ 8/79	22	22	6.9	28.4	28.4	609.3
35	8/ 9/79	20	15	0.0	0.0	0.0	609.3
35	8/ 9/79	20	20	15.9	1.3	1.3	610.6
35	8/ 9/79	20	25	3.2	1.6	1.6	610.9
35	8/ 9/79	20	30	12.7	2.6	2.6	612.0
35	8/ 9/79	20	33	37.0	4.5	4.5	613.8
35	8/ 9/79	20	40	13.6	6.1	6.1	615.4
35	8/ 9/79	20	45	6.3	6.6	6.6	615.9
35	8/13/79			NO DATA	0.0	0.0	615.9
35	8/13/79			NO DATA	0.8	0.8	616.7
35	8/19/79	2	23	0.0	0.0	0.0	616.7
35	8/19/79	2	34	35.1	6.4	6.4	623.1
35	8/19/79	2	43	14.3	8.6	8.6	625.3
35	8/19/79	2	47	8.0	9.1	9.1	625.8
35	8/19/79	2	53	18.8	11.0	11.0	627.7
35	8/19/7	3	2	5.4	11.8	11.8	628.5
35	8/19/79	3	5	48.3	14.2	14.2	630.9
35	8/19/79	3	11	26.8	16.9	16.9	633.6
35	8/19/79	3	23	5.4	18.0	18.0	634.7
35	8/19/79	3	34	1.5	18.2	18.2	634.9
35	8/19/79	3	43	3.6	18.8	18.8	635.5
35	8/19/79	3	53	3.2	19.3	19.3	636.0
35	8/19/79	4	3	1.6	19.6	19.6	636.3
35	8/19/79	5	22	0.2	19.8	19.8	636.5
35	8/19/79	5	24	56.3	21.7	21.7	638.4
35	8/19/79	5	35	2.9	22.3	22.3	638.9
35	8/19/79	5	37	32.2	23.3	23.3	640.0
35	8/19/79	5	42	3.2	23.6	23.6	640.3
35	8/19/79	5	51	7.2	24.7	24.7	641.4
35	8/19/79	5	58	23.0	27.4	27.4	644.0
35	8/19/79	6	3	3.2	27.6	27.6	644.3
35	8/19/79	6	9	26.8	30.3	30.3	647.0
35	8/19/79	6	13	4.0	30.6	30.6	647.3
35	8/19/79	6	17	32.2	32.7	32.7	649.4
35	8/19/79	6	26	8.9	34.1	34.1	650.7
35	8/19/79	6	33	6.9	34.9	34.9	651.6
35	8/19/79	6	43	4.8	35.7	35.7	652.4
35	8/19/79	7	11	1.1	36.2	36.2	652.9
35	8/19/79	7	25	2.3	36.7	36.7	653.4
35	8/19/79	7	30	19.3	38.4	38.4	655.0
35	8/19/79	20	55	0.0	0.0	38.4	655.0
35	8/19/79	21	1	51.1	5.1	43.5	660.1
35	8/19/79	21	9	6.1	5.9	44.3	661.0
35	8/19/79	21	11	56.5	7.8	46.2	662.8
35	8/19/79	21	21	6.5	8.9	47.2	663.9
35	8/19/79	21	23	48.4	10.5	48.8	665.5
35	8/19/79	21	29	2.7	10.8	49.1	665.8
35	8/19/79	21	31	48.4	12.4	50.7	667.4
35	8/19/79	21	37	8.1	13.2	51.5	668.2
35	8/19/79	21	38	48.4	14.0	52.3	669.0
35	8/19/79	21	43	6.5	14.5	52.9	669.6
35	8/19/79	21	50	11.5	15.9	54.2	670.9
35	8/19/79	22	5	2.2	16.4	54.8	671.4
35	8/19/79	22	8	32.3	18.0	56.4	673.1
35	8/19/79	22	11	5.4	18.3	56.7	673.3
35	8/19/79	22	14	64.6	21.5	59.9	676.6
35	8/19/79	22	38	2.0	22.3	60.7	677.4
35	8/19/79	22	59	0.8	22.6	61.0	677.6
35	8/19/79	23	2	26.9	23.9	62.3	679.0
35	8/20/79	0	45	0.8	25.3	1.3	680.3
35	8/20/79	1	0	4.3	26.4	2.4	681.4
35	8/20/79	1	43	1.1	27.2	3.2	682.2
35	8/21/79	18	39	0.0	0.0	0.0	682.2
35	8/21/79	18	46	4.7	0.5	0.5	682.8
35	8/21/79	18	58	90.4	18.6	18.6	700.8
35	8/21/79	19	0	49.3	20.3	20.3	702.5
35	8/21/79	19	6	13.7	21.6	21.6	703.8
35	8/21/79	19	16	39.4	28.2	28.2	710.4
35	8/21/79	19	20	12.3	29.0	29.0	711.2
35	8/21/79	19	32	2.7	29.6	29.6	711.8
35	8/21/79	19	50	2.7	30.4	30.4	712.6
35	8/21/79	20	35	1.5	31.5	31.5	713.7
35	8/22/79			NO DATA	0.0	0.0	713.7
35	8/22/79			NO DATA	5.1	5.1	718.8
35	8/26/79	19	30	0.0	0.0	0.0	718.8
35	8/26/79	20	0	4.2	2.1	2.1	720.9
35	8/26/79	20	10	10.0	3.8	3.8	722.5
35	8/26/79	20	20	5.0	4.6	4.6	723.4
35	8/26/79	20	38	4.2	5.8	5.8	724.6
35	8/28/79			NO DATA	0.0	0.0	724.6
35	8/28/79			NO DATA	1.3	1.3	725.9
35	9/ 5/79	19	57	0.0	0.0	0.0	725.9
35	9/ 5/79	20	2	10.6	0.9	0.9	726.8
35	9/ 5/79	20	32	1.2	1.5	1.5	727.4
35	9/ 5/79	20	42	5.3	2.3	2.3	728.2
35	9/ 5/79	21	2	4.4	3.8	3.8	729.7
35	9/ 5/79	21	32	7.0	7.3	7.3	733.2
35	9/ 5/79	21	52	4.4	8.8	8.8	734.7

TABLE B1- 5. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
35	9/ 5/79	22	7	2.3	9.4	9.4	735.3
35	9/24/79	5	12	0.0	0.0	0.0	735.3
35	9/24/79	5	29	4.3	1.2	1.2	736.5
35	9/24/79	6	34	1.1	2.5	2.5	737.8
35	9/24/79	6	59	2.9	3.7	3.7	739.0
35	9/24/79	9	21	0.1	3.9	3.9	739.2
35	9/24/79	9	43	2.7	4.9	4.9	740.2
35	9/24/79	10	9	0.6	5.2	5.2	740.5
35	9/24/79	10	19	1.5	5.4	5.4	740.7
35	9/24/79	10	54	1.3	6.1	6.1	741.4
35	9/24/79	11	9	1.0	6.4	6.4	741.7
35	9/24/79	11	19	5.9	7.4	7.4	742.7
35	10/ 1/79	9	15	0.0	0.0	0.0	742.7
35	10/ 1/79	9	25	4.9	0.8	0.8	743.5
35	10/ 1/79	9	40	1.1	1.1	1.1	743.7
35	10/ 1/79	9	50	1.6	1.4	1.4	744.0
35	10/ 1/79	11	44	0.0	1.4	1.4	744.0
35	10/ 1/79	11	47	16.3	2.2	2.2	744.8
35	10/ 1/79	12	20	1.5	3.0	3.0	745.6
35	10/ 1/79	12	53	1.0	3.5	3.5	746.2
35	10/ 1/79	13	3	8.1	4.9	4.9	747.5
35	10/ 1/79	13	11	8.1	6.0	6.0	748.6
35	10/ 1/79	13	20	5.4	6.8	6.8	749.4
35	10/ 1/79	13	30	3.3	7.3	7.3	750.0
35	10/ 1/79	13	50	0.8	7.6	7.6	750.2
35	10/ 1/79	14	0	3.3	8.1	8.1	750.8
35	10/ 3/79			NO DATA	0.0	0.0	750.8
35	10/ 3/79			NO DATA	2.8	2.8	753.6
35	10/11/79			NO DATA	0.0	0.0	753.6
35	10/11/79			NO DATA	2.5	2.5	756.1
35	10/18/79	22	23	0.0	0.0	0.0	756.1
35	10/18/79	22	39	3.7	1.0	1.0	757.1
35	10/18/79	22	58	2.4	1.7	1.7	757.9
35	10/18/79	23	13	3.0	2.5	2.5	758.6
35	10/18/79	23	19	5.0	3.0	3.0	759.1
35	10/18/79	23	27	9.3	4.2	4.2	760.3
35	10/18/79	23	38	5.4	5.2	5.2	761.3
35	10/18/79	23	42	14.9	6.2	6.2	762.3
35	10/18/79	23	49	6.4	6.9	6.9	763.1
35	10/18/79	23	51	37.2	8.2	8.2	764.3
35	10/18/79	23	53	22.3	8.9	8.9	765.0
35	10/18/79	23	57	7.4	9.4	9.4	765.5
35	10/19/79	0	13	4.7	10.7	1.2	766.8
35	10/21/79	21	17	0.0	0.0	0.0	766.8
35	10/21/79	21	27	3.4	0.6	0.6	767.3
35	10/21/79	21	47	2.5	1.4	1.4	768.2
35	10/21/79	22	35	0.4	1.7	1.7	768.5
35	10/21/79	22	39	4.2	2.0	2.0	768.8
35	10/21/79	22	42	11.2	2.5	2.5	769.3
35	10/21/79	22	50	4.2	3.1	3.1	769.9
35	10/21/79	22	55	50.6	7.3	7.3	774.1
35	10/21/79	22	59	12.6	8.2	8.2	774.9
35	10/21/79	23	7	4.2	8.7	8.7	775.5
35	10/21/79	23	11	12.6	9.6	9.6	776.3
35	10/21/79	23	17	45.0	14.1	14.1	780.8
35	10/21/79	23	21	25.3	15.7	15.7	782.5
35	10/21/79	23	31	25.3	20.0	20.0	786.7
35	10/22/79	3	9	4.4	22.8	2.8	789.5
35	10/22/79	0	47	0.9	23.3	3.4	790.1
35	10/22/79	0	57	3.4	23.9	3.9	790.7
35	10/22/79	1	5	6.3	24.7	4.8	791.5
35	10/22/79	1	31	1.3	25.3	5.3	792.1
35	10/22/79	1	37	2.8	25.6	5.6	792.4
35	10/22/79	2	1	1.4	26.1	6.2	792.9
35	10/22/79	2	22	2.4	27.0	7.0	793.8
35	10/22/79	3	11	0.3	27.3	7.3	794.0
35	10/22/79	3	27	4.2	28.4	8.4	795.2
35	10/22/79	3	50	3.7	29.8	9.8	796.6
35	10/22/79	4	38	6.7	35.1	15.2	801.9
35	10/22/79	4	54	7.4	37.1	17.1	803.9
35	10/22/79	5	27	9.7	42.4	22.5	809.2
35	10/22/79	5	42	16.9	46.7	26.7	813.4
35	10/22/79	6	14	10.0	52.0	32.0	818.8
35	10/22/79	6	37	5.9	54.2	34.3	821.0
35	10/22/79	6	42	10.1	55.1	35.1	821.9
35	10/22/79	7	17	5.3	58.2	38.2	825.0
35	10/22/79	7	37	6.7	60.4	40.5	827.2
35	10/22/79	7	49	5.6	61.6	41.6	828.3
35	10/22/79	8	17	7.2	64.9	45.0	831.7
35	10/22/79	8	37	4.2	66.3	46.4	833.1
35	10/22/79	9	25	2.1	68.0	48.1	834.8
35	10/22/79	9	28	22.5	69.1	49.2	835.9
35	10/22/79	9	37	1.9	69.4	49.5	836.2
35	10/22/79	9	57	5.1	71.1	51.2	837.9
35	10/22/79	10	7	1.7	71.4	51.4	838.2
35	10/22/79	10	12	3.4	71.7	51.7	838.4
35	10/22/79	10	19	2.4	71.9	52.0	838.7
35	10/22/79	10	23	21.1	73.4	53.4	840.1
35	10/22/79	10	32	9.4	74.8	54.8	841.5
35	10/22/79	10	42	1.7	75.0	55.1	841.8
35	10/22/79	10	53	6.1	76.2	56.2	842.9
35	10/22/79	11	2	7.5	77.3	57.3	844.1
35	10/22/79	11	13	3.1	77.9	57.9	844.6
35	10/22/79	11	17	12.6	78.7	58.7	845.5
35	10/22/79	11	28	3.1	79.3	59.3	846.0
35	10/22/79	11	42	16.9	83.2	63.2	850.0
35	10/22/79	11	49	4.8	83.8	63.8	850.5
35	10/22/79	11	52	45.0	86.0	66.0	852.8

TABLE B1- 5. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
35	10/22/79	11	59	12.0	87.4	67.5	854.2
35	10/22/79	12	7	6.3	88.3	68.3	855.0
35	10/22/79	12	17	3.4	88.8	68.9	855.6
35	10/22/79	12	59	0.8	89.4	69.4	856.2
35	10/22/79	15	17	0.2	89.9	70.0	856.7
35	10/22/79	18	37	0.1	90.2	70.3	857.0
35	10/22/79	21	7	0.8	92.2	72.2	859.0
35	10/22/79	21	27	1.7	92.7	72.8	859.5
35	10/22/79	21	43	1.1	93.0	73.1	859.8
35	10/22/79	22	7	1.4	93.6	73.6	860.4
35	10/22/79	22	37	1.1	94.2	74.2	860.9
35	10/22/79	23	6	0.6	94.4	74.5	861.2
35	10/23/79	1	7	0.3	95.0	0.6	861.8
35	10/31/79	5	35	0.0	0.0	0.0	861.8
35	10/31/79	6	34	1.1	1.1	1.1	862.8
35	10/31/79	8	9	0.3	1.6	1.6	863.4
35	10/31/79	8	47	0.8	2.1	2.1	863.9
35	10/31/79	8	48	47.8	2.9	2.9	864.7
35	10/31/79	8	50	8.0	3.2	3.2	865.0
35	10/31/79	8	58	2.0	3.5	3.5	865.2
35	10/31/79	9	1	10.6	4.0	4.0	865.8
35	10/31/79	9	13	1.3	4.3	4.3	866.0
35	10/31/79	9	17	8.0	4.8	4.8	866.6
35	10/31/79	9	44	4.1	6.6	6.6	868.4
35	10/31/79	10	4	2.4	7.4	7.4	869.2
35	10/31/79	10	18	2.3	8.0	8.0	869.7
35	10/31/79	10	34	2.0	8.5	8.5	870.3
35	10/31/79	10	54	2.4	9.3	9.3	871.1
35	10/31/79	10	58	8.0	9.8	9.8	871.6
35	10/31/79	11	5	2.3	10.1	10.1	871.9
35	10/31/79	11	14	8.9	11.4	11.4	873.2
35	11/ 5/79	8	4	0.0	0.0	0.0	873.2
35	11/ 5/79	10	4	0.7	1.5	1.5	874.7
35	11/ 5/79	11	32	0.2	1.7	1.7	874.9
35	11/ 5/79	11	44	2.9	2.3	2.3	875.5
35	11/ 5/79	12	3	1.8	2.9	2.9	876.1
35	11/ 5/79	12	14	1.6	3.2	3.2	876.4
35	11/ 5/79	13	44	0.2	3.5	3.5	876.7
35	11/ 5/79	13	54	3.5	4.1	4.1	877.3
35	11/ 5/79	15	19	0.2	4.4	4.4	877.6
35	11/ 5/79	15	24	3.5	4.7	4.7	877.9
35	11/ 5/79	15	41	1.0	5.0	5.0	878.2
35	11/ 5/79	16	14	1.1	5.5	5.5	878.7
35	11/ 5/79	16	44	0.6	5.8	5.8	879.0
35	11/ 5/79	16	52	2.2	6.1	6.1	879.3
35	11/ 5/79	17	0	2.2	6.4	6.4	879.6
35	11/ 5/79	17	16	2.2	7.0	7.0	880.2
35	11/ 5/79	18	27	0.7	7.9	7.9	881.1
35	11/ 5/79	18	37	5.2	8.7	8.7	881.9
35	11/ 5/79	20	34	0.6	9.9	9.9	883.1
35	11/ 9/79			SNOW	0.0	0.0	883.1
35	11/ 9/79			SNOW	0.8	0.8	883.9
35	11/12/79			SNOW	0.0	0.0	883.9
35	11/12/79			SNOW	1.8	1.8	885.6

TABLE B1- 6. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1979 GAGE 36

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED PRECIPITATION STORM MM	DAY MM	YEAR MM
36	1/11/79			SNOW	0.0	0.0	0.0
36	1/11/79			SNOW	3.3	3.3	3.3
36	1/13/79			SNOW	0.0	0.0	3.3
36	1/13/79			SNOW	9.4	9.4	12.7
36	1/18/79			SNOW	0.0	0.0	12.7
36	1/18/79			SNOW	6.9	6.9	19.6
36	1/20/79			SNOW	0.0	0.0	19.6
36	1/20/79			SNOW	0.8	0.8	20.3
36	1/23/79			SNOW	0.0	0.0	20.3
36	1/23/79			SNOW	7.6	7.6	27.9
36	1/26/79			SNOW	0.0	0.0	27.9
36	1/26/79			SNOW	8.1	8.1	36.1
36	2/ 7/79			SNOW	0.0	0.0	36.1
36	2/ 7/79			SNOW	4.6	4.6	40.6
36	2/20/79			SNOW	0.0	0.0	40.6
36	2/20/79			SNOW	3.6	3.6	44.2
36	3/ 3/79			SNOW	0.0	0.0	44.2
36	3/ 3/79			SNOW	25.9	25.9	70.1
36	3/ 4/79			SNOW	0.0	0.0	70.1
36	3/ 4/79			SNOW	4.1	4.1	74.2
36	3/ 6/79			SNOW	0.0	0.0	74.2
36	3/ 6/79			SNOW	0.3	0.3	74.4
36	3/18/79			SNOW	0.0	0.0	74.4
36	3/18/79			SNOW	9.7	9.7	84.1
36	3/22/79	22	50	0.0	0.0	0.0	84.1
36	3/22/79	23	40	1.5	1.3	1.3	85.3
36	3/22/79	23	45	15.2	2.5	2.5	86.6
36	3/22/79	23	56	5.5	3.6	3.6	87.6
36	3/23/79	1	10	0.8	4.6	1.0	88.6
36	3/23/79	1	55	0.7	5.1	1.5	89.2
36	3/23/79	2	40	1.4	6.1	2.5	90.2
36	3/23/79	3	10	0.5	6.3	2.8	90.4
36	3/23/79	3	39	0.5	6.6	3.0	90.7
36	3/23/79	4	30	0.3	6.9	3.3	90.9
36	3/23/79	5	40	0.7	7.6	4.1	91.7
36	3/23/79			NO DATA	0.0	4.1	91.7
36	3/23/79			NO DATA	10.2	14.2	101.9
36	3/24/79			SNOW	0.0	0.0	101.9
36	3/24/79			SNOW	11.7	11.7	113.5
36	3/28/79			NO DATA	0.0	0.0	113.5
36	3/28/79			NO DATA	12.2	12.2	125.7
36	3/29/79			NO DATA	0.0	0.0	125.7
36	3/29/79			NO DATA	10.2	10.2	135.9
36	4/ 1/79			SNOW	0.0	0.0	135.9
36	4/ 1/79			SNOW	23.4	23.4	159.3
36	4/10/79			NO DATA	0.0	0.0	159.3
36	4/10/79			NO DATA	5.1	5.1	164.3
36	4/19/79			NO DATA	0.0	0.0	164.3
36	4/19/79			NO DATA	20.3	20.3	184.7
36	4/20/79			NO DATA	0.0	0.0	184.7
36	4/20/79			NO DATA	38.6	38.6	223.3
36	4/25/79	9	13	0.0	0.0	0.0	223.3
36	4/25/79	9	15	41.0	1.4	1.4	224.6
36	4/25/79	10	0	0.7	1.9	1.9	225.2
36	4/25/79	10	19	1.7	2.5	2.5	225.7
36	4/25/79	10	28	7.3	3.6	3.6	226.8
36	4/25/79	10	34	19.1	5.5	5.5	228.7
36	4/25/79	10	50	10.3	8.2	8.2	231.5
36	4/25/79	11	0	3.3	8.8	8.8	232.0
36	4/25/79	11	20	2.5	9.6	9.6	232.8
36	4/25/79	12	0	0.8	10.1	10.1	233.4
36	4/25/79	14	58	0.3	10.9	10.9	234.2
36	4/25/79	15	16	6.4	12.9	12.9	236.1
36	4/25/79	15	34	1.8	13.4	13.4	236.7
36	4/25/79	15	40	2.7	13.7	13.7	236.9
36	4/25/79	15	50	3.3	14.2	14.2	237.5
36	4/25/79	16	25	0.9	14.8	14.8	238.0
36	4/25/79	16	40	4.4	15.9	15.9	239.1
36	4/25/79	16	53	5.0	17.0	17.0	240.2
36	4/25/79	17	20	1.8	17.8	17.8	241.0
36	4/29/79			NO DATA	0.0	0.0	241.0
36	4/29/79			NO DATA	2.0	2.0	243.1
36	5/ 2/79	9	10	0.0	0.0	0.0	243.1
36	5/ 2/79	9	54	0.3	0.2	0.2	243.3
36	5/ 2/79	10	8	3.2	1.0	1.0	244.1
36	5/ 2/79	10	16	7.5	2.0	2.0	245.1
36	5/ 2/79	10	24	7.5	3.0	3.0	246.1
36	5/ 2/79	10	32	3.7	3.5	3.5	246.6
36	5/ 2/79	10	45	2.3	4.0	4.0	247.1
36	5/ 2/79	10	56	2.7	4.5	4.5	247.6
36	5/ 2/79	11	7	5.4	5.5	5.5	248.6

TABLE B1- 6. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
36	5/ 2/79	11	20	1.1	5.7	5.7	248.8
36	5/ 2/79	11	40	3.7	7.0	7.0	250.0
36	5/ 2/79	11	50	6.0	8.0	8.0	251.0
36	5/ 2/79	13	0	3.8	12.5	12.5	255.5
36	5/ 2/79	13	47	4.1	15.7	15.7	258.8
36	5/ 2/79	13	55	3.7	16.2	16.2	259.3
36	5/ 2/79	14	30	3.8	18.4	18.4	261.5
36	5/ 2/79	14	56	5.2	20.7	20.7	263.7
36	5/ 2/79	15	25	2.1	21.7	21.7	264.7
36	5/ 2/79	15	40	1.0	21.9	21.9	265.0
36	5/ 2/79	16	14	0.9	22.4	22.4	265.5
36	5/ 2/79	17	10	0.8	23.2	23.2	266.2
36	5/ 2/79	17	44	1.3	23.9	23.9	267.0
36	5/ 2/79	18	13	1.5	24.7	24.7	267.7
36	5/ 2/79	19	30	0.8	25.7	25.7	268.7
36	5/ 8/79	0	53	0.0	0.0	0.0	268.7
36	5/ 8/79	1	0	10.9	1.3	1.3	270.0
36	5/ 8/79	1	2	15.2	1.8	1.8	270.5
36	5/ 8/79	1	12	4.6	2.5	2.5	271.3
36	5/ 8/79	1	25	2.3	3.0	3.0	271.8
36	5/ 8/79	1	34	5.1	3.8	3.8	272.5
36	5/ 8/79	1	44	3.0	4.3	4.3	273.0
36	5/ 8/79	1	53	8.5	5.6	5.6	274.3
36	5/10/79	16	6	0.0	0.0	0.0	274.3
36	5/10/79	16	10	8.3	0.6	0.6	274.9
36	5/10/79	16	12	140.9	5.3	5.3	279.6
36	5/10/79	16	13	82.9	6.6	6.6	280.9
36	5/10/79	16	17	20.7	8.0	8.0	282.3
36	5/10/79	16	22	3.3	8.3	8.3	282.6
36	5/10/79	16	32	6.6	9.4	9.4	283.7
36	5/12/79			NO DATA	0.0	0.0	283.7
36	5/12/79			NO DATA	2.0	2.0	285.7
36	5/13/79			NO DATA	0.0	0.0	285.7
36	5/13/79			NO DATA	1.3	1.3	287.0
36	5/18/79	6	34	0.0	0.0	0.0	287.0
36	5/18/79	14	55	0.1	0.5	0.5	287.5
36	5/18/79	15	6	2.8	1.0	1.0	288.1
36	5/18/79	17	59	0.1	1.3	1.3	288.3
36	5/18/79	18	25	1.2	1.8	1.8	288.8
36	5/18/79	18	40	5.2	3.1	3.1	290.1
36	5/18/79	22	0	0.2	3.7	3.7	290.7
36	5/18/79	22	18	3.5	4.7	4.7	291.7
36	5/18/79	22	40	2.1	5.5	5.5	292.5
36	5/18/79	23	35	0.6	6.0	6.0	293.0
36	5/18/79	23	53	4.3	7.3	7.3	294.3
36	5/19/79	0	6	2.4	7.8	0.5	294.8
36	5/19/79	0	12	5.2	8.3	1.0	295.4
36	5/19/79	1	19	0.5	8.9	1.6	295.9
36	5/19/79	1	25	7.8	9.7	2.3	296.7
36	5/26/79	9	0	0.0	0.0	0.0	296.7
36	5/26/79	10	35	2.4	3.8	3.8	300.5
36	5/26/79	17	57	0.0	3.8	3.8	300.5
36	5/26/79	18	0	54.9	6.6	6.6	303.3
36	5/26/79	18	30	3.8	8.5	8.5	305.2
36	5/26/79	19	0	3.3	10.2	10.2	306.8
36	5/29/79	6	28	0.0	0.0	0.0	306.8
36	5/29/79	6	29	157.7	2.6	2.6	309.4
36	5/29/79	6	31	15.8	3.2	3.2	310.0
36	5/29/79	7	46	0.8	4.2	4.2	311.0
36	5/29/79	8	0	9.0	6.3	6.3	313.1
36	5/29/79	8	30	2.1	7.4	7.4	314.2
36	5/29/79	9	0	0.5	7.6	7.6	314.4
36	5/30/79			NO DATA	0.0	0.0	314.4
36	5/30/79			NO DATA	0.3	0.3	314.7
36	6/ 4/79	10	20	0.0	0.0	0.0	314.7
36	6/ 4/79	15	0	0.1	0.3	0.3	314.9
36	6/ 4/79	18	8	0.2	0.8	0.8	315.4
36	6/ 4/79	18	13	6.0	1.3	1.3	315.9
36	6/ 4/79	18	18	15.0	2.5	2.5	317.2
36	6/ 4/79	18	25	17.2	4.5	4.5	319.2
36	6/ 4/79	18	28	60.2	7.5	7.5	322.2
36	6/ 4/79	18	31	25.1	8.8	8.8	323.5
36	6/ 4/79	18	33	75.2	11.3	11.3	326.0
36	6/ 4/79	18	37	75.2	16.3	16.3	331.0
36	6/ 4/79	18	40	25.1	17.5	17.5	332.2
36	6/ 4/79	18	48	56.4	25.1	25.1	339.8
36	6/ 4/79	18	53	75.2	31.3	31.3	346.0
36	6/ 4/79	18	56	75.2	35.1	35.1	349.8
36	6/ 4/79	18	59	25.1	36.3	36.3	351.0
36	6/ 4/79	19	3	18.8	37.6	37.6	352.3
36	6/ 4/79	19	10	2.1	37.9	37.9	352.5
36	6/ 4/79	19	13	10.0	38.4	38.4	353.0
36	6/ 7/79			NO DATA	0.0	0.0	353.0
36	6/ 7/79			NO DATA	1.3	1.3	354.3
36	6/ 8/79			NO DATA	0.0	0.0	354.3
36	6/ 8/79			NO DATA	5.1	5.1	359.4
36	6/ 9/79	6	48	0.0	0.0	0.0	359.4
36	6/ 9/79	8	25	0.2	0.3	0.3	359.6
36	6/ 9/79	8	34	1.7	0.5	0.5	359.9
36	6/ 9/79	8	54	1.5	1.0	1.0	360.4
36	6/ 9/79	8	58	7.6	1.5	1.5	360.9
36	6/ 9/79	9	4	12.7	2.8	2.8	362.2

TABLE B1- 6. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
36	6/ 9/79	9	8	34.3	5.1	5.1	364.5
36	6/ 9/79	9	16	3.8	5.6	5.6	365.0
36	6/ 9/79	10	4	1.0	6.4	6.4	365.7
36	6/ 9/79	10	24	0.8	6.6	6.6	366.0
36	6/ 9/79	10	44	2.3	7.4	7.4	366.8
36	6/ 9/79	10	54	4.6	8.1	8.1	367.5
36	6/ 9/79	11	4	1.5	8.4	8.4	367.8
36	6/ 9/79	11	14	3.0	8.9	8.9	368.3
36	6/ 9/79	11	34	1.5	9.4	9.4	368.8
36	6/ 9/79	11	54	0.8	9.7	9.7	369.0
36	6/ 9/79	12	6	2.5	10.2	10.2	369.6
36	6/ 9/79			NO DATA	0.0	10.2	369.6
36	6/ 9/79			NO DATA	2.5	12.7	372.1
36	6/12/79	17	55	0.0	0.0	0.0	372.1
36	6/12/79	17	59	70.3	4.7	4.7	376.8
36	6/12/79	18	6	2.2	4.9	4.9	377.0
36	6/12/79	18	9	26.0	6.3	6.3	378.3
36	6/12/79	18	12	15.6	7.0	7.0	379.1
36	6/12/79	18	16	43.0	9.9	9.9	382.0
36	6/12/79	18	25	78.2	21.6	21.6	393.7
36	6/12/79	18	27	62.5	23.7	23.7	395.8
36	6/12/79	18	31	27.4	25.5	25.5	397.6
36	6/12/79	18	38	11.2	26.8	26.8	398.9
36	6/12/79	18	45	4.5	27.4	27.4	399.4
36	6/12/79	18	51	5.2	27.9	27.9	400.0
36	6/12/79	19	25	0.9	28.4	28.4	400.5
36	6/12/79	20	25	0.8	29.2	29.2	401.3
36	6/12/79	20	57	0.5	29.4	29.4	401.5
36	6/12/79	21	8	2.8	30.0	30.0	402.1
36	6/12/79	21	31	1.4	30.5	30.5	402.6
36	6/17/79	21	12	0.0	0.0	0.0	402.6
36	6/17/79	21	15	10.2	0.5	0.5	403.1
36	6/17/79	22	10	0.3	0.8	0.8	403.3
36	6/17/79	22	50	1.5	1.8	1.8	404.4
36	6/18/79	6	34	0.1	2.5	0.8	405.1
36	6/18/79	6	37	10.2	3.0	1.3	405.6
36	6/18/79	6	43	12.7	4.3	2.5	406.9
36	6/18/79	6	51	28.6	8.1	6.3	410.7
36	6/18/79	6	52	76.2	9.4	7.6	412.0
36	6/18/79	6	56	38.1	11.9	10.2	414.5
36	6/18/79	6	58	38.1	13.2	11.4	415.8
36	6/18/79	7	3	6.1	13.7	11.9	416.3
36	6/18/79	7	6	20.3	14.7	13.0	417.3
36	6/18/79	7	20	4.4	15.7	14.0	418.3
36	6/19/79	22	4	0.0	0.0	0.0	418.3
36	6/19/79	22	7	9.7	0.5	0.5	418.8
36	6/19/79	22	12	5.8	1.0	1.0	419.3
36	6/19/79	22	14	21.9	1.7	1.7	420.0
36	6/19/79	22	20	12.2	2.9	2.9	421.2
36	6/19/79	22	30	1.5	3.2	3.2	421.5
36	6/19/79	22	34	47.4	6.3	6.3	424.6
36	6/19/79	22	37	53.5	9.0	9.0	427.3
36	6/19/79	22	40	19.5	10.0	10.0	428.3
36	6/19/79	22	46	9.7	10.9	10.9	429.3
36	6/19/79	23	3	1.7	11.4	11.4	429.7
36	6/26/79	23	55	0.0	0.0	0.0	429.7
36	6/26/79	23	59	38.1	2.5	2.5	432.3
36	6/27/79	0	5	12.7	3.8	1.3	433.6
36	6/27/79	0	10	140.2	15.5	13.0	445.2
36	6/27/79	0	13	71.1	19.0	16.5	448.8
36	6/27/79	0	16	101.6	24.1	21.6	453.9
36	6/27/79	0	21	30.5	26.7	24.1	456.4
36	6/27/79	0	23	152.4	31.7	29.2	461.5
36	6/27/79	0	28	61.0	36.8	34.3	466.6
36	6/27/79	0	31	66.0	40.1	37.6	469.9
36	6/27/79	0	35	26.7	41.9	39.4	471.7
36	6/27/79	0	44	16.9	44.4	41.9	474.2
36	6/27/79	0	51	8.7	45.5	42.9	475.2
36	6/27/79	0	57	5.1	46.0	43.4	475.7
36	6/27/79	1	9	3.8	46.7	44.2	476.5
36	6/27/79	1	22	3.5	47.5	45.0	477.2
36	6/28/79			NO DATA	0.0	0.0	477.2
36	6/28/79			NO DATA	3.0	3.0	480.3
36	7/ 3/79	7	43	0.0	0.0	0.0	480.3
36	7/ 3/79	7	55	65.6	13.1	13.1	493.4
36	7/ 3/79	7	57	92.7	16.2	16.2	496.5
36	7/ 3/79	8	3	59.2	22.1	22.1	502.4
36	7/ 3/79	8	7	96.5	28.6	28.6	508.9
36	7/ 3/79	8	9	46.3	30.1	30.1	510.4
36	7/ 3/79	8	14	27.8	32.4	32.4	512.7
36	7/ 3/79	8	19	30.9	35.0	35.0	515.3
36	7/ 3/79	8	22	61.8	38.1	38.1	518.4
36	7/ 3/79	8	32	17.0	40.9	40.9	521.2
36	7/ 3/79	8	47	3.1	41.7	41.7	522.0
36	7/ 3/79	8	50	20.6	42.7	42.7	523.0
36	7/ 3/79	8	52	54.0	44.5	44.5	524.8
36	7/ 3/79	8	58	25.7	47.1	47.1	527.4
36	7/ 3/79	9	1	61.8	50.2	50.2	530.5
36	7/ 3/79	9	7	12.9	51.5	51.5	531.8
36	7/ 3/79	9	13	15.4	53.0	53.0	533.3
36	7/ 3/79	9	18	6.2	53.5	53.5	533.8
36	7/ 3/79	9	23	15.4	54.8	54.8	535.1
36	7/ 3/79	9	30	61.8	62.0	62.0	542.3
36	7/ 3/79	9	35	61.8	67.2	67.2	547.5
36	7/ 3/79	9	43	67.6	76.2	76.2	556.5
36	7/ 3/79	9	49	90.1	85.2	85.2	565.5
36	7/ 3/79	9	53	61.8	89.3	89.3	569.6

TABLE B1- 6. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
36	7/ 3/79	9	57	15.4	90.3	90.3	570.6
36	7/ 3/79	9	59	46.3	91.9	91.9	572.2
36	7/ 3/79	10	6	37.5	96.3	96.3	576.5
36	7/ 3/79	10	18	2.6	96.8	96.8	577.1
36	7/ 3/79	20	40	0.0	0.0	96.8	577.1
36	7/ 3/79	20	44	14.6	1.0	97.7	578.0
36	7/ 3/79	20	50	36.5	4.6	101.4	581.7
36	7/ 3/79	20	53	73.0	8.3	105.0	585.3
36	7/ 3/79	20	55	43.8	9.7	106.5	586.8
36	7/ 3/79	21	1	17.0	11.4	108.2	588.5
36	7/10/79	20	30	0.0	0.0	0.0	588.5
36	7/10/79	22	0	1.0	1.4	1.4	589.9
36	7/10/79	23	48	0.3	1.9	1.9	590.4
36	7/10/79	23	53	5.7	2.4	2.4	590.9
36	7/10/79	24	0	2.1	2.6	2.6	591.1
36	7/11/79	0	5	20.1	4.3	1.7	592.8
36	7/11/79	0	20	6.7	6.0	3.4	594.5
36	7/11/79	0	35	1.9	6.5	3.8	595.0
36	7/11/79	3	0	0.3	7.2	4.6	595.7
36	7/11/79	4	0	1.2	8.4	5.7	596.9
36	7/13/79	9	50	0.0	0.0	0.0	596.9
36	7/13/79	10	0	10.9	1.8	1.8	598.7
36	7/13/79	10	25	5.6	4.2	4.2	601.0
36	7/13/79	11	40	0.6	5.0	5.0	601.8
36	7/13/79	20	8	0.0	5.0	5.0	601.8
36	7/13/79	20	12	46.9	8.1	8.1	604.9
36	7/13/79	20	14	101.6	11.5	11.5	608.3
36	7/13/79	20	16	39.1	12.8	12.8	609.6
36	7/13/79	20	32	18.6	17.7	17.7	614.6
36	7/14/79	0	50	0.3	19.0	1.3	615.9
36	7/14/79	0	56	70.3	26.1	8.3	622.9
36	7/14/79	1	3	42.4	31.0	13.3	627.9
36	7/14/79	1	13	12.5	33.1	15.4	630.0
36	7/14/79	1	16	46.9	35.4	17.7	632.3
36	7/14/79	1	20	136.8	44.6	26.8	641.4
36	7/14/79	1	27	17.9	46.6	28.9	643.5
36	7/14/79	1	32	78.2	53.1	35.4	650.0
36	7/14/79	1	37	78.2	59.7	41.9	656.5
36	7/14/79	1	42	62.5	64.9	47.2	661.7
36	7/14/79	1	50	46.9	71.1	53.4	668.0
36	7/14/79	2	12	2.1	71.9	54.2	668.8
36	7/14/79	2	40	2.2	72.9	55.2	669.8
36	7/14/79	2	42	31.3	74.0	56.3	670.9
36	7/14/79	2	48	10.4	75.0	57.3	671.9
36	7/14/79	3	58	0.2	75.3	57.6	672.2
36	7/14/79	4	3	6.3	75.8	58.1	672.7
36	7/14/79	4	4	46.9	76.6	58.9	673.5
36	7/14/79	4	8	11.7	77.4	59.7	674.2
36	7/14/79	4	10	54.7	79.2	61.5	676.1
36	7/14/79	4	14	3.9	79.5	61.7	676.3
36	7/14/79	4	16	31.3	80.5	62.8	677.4
36	7/14/79	4	20	7.8	81.0	63.3	677.9
36	7/19/79			NO DATA	0.0	0.0	677.9
36	7/19/79			NO DATA	1.3	1.3	679.2
36	7/24/79			NO DATA	0.0	0.0	679.2
36	7/24/79			NO DATA	1.0	1.0	680.2
36	7/29/79	18	30	0.0	0.0	0.0	680.2
36	7/29/79	20	0	0.9	1.4	1.4	681.6
36	7/29/79	20	20	4.2	2.8	2.8	683.0
36	7/29/79	20	50	0.6	3.0	3.0	683.2
36	7/30/79	3	58	0.1	3.9	0.9	684.1
36	7/30/79	4	1	66.5	7.2	4.2	687.4
36	7/30/79	4	4	5.5	7.5	4.4	687.7
36	7/30/79	4	8	33.3	9.7	6.7	689.9
36	7/30/79	4	25	1.0	10.0	6.9	690.2
36	7/30/79	4	29	29.1	11.9	8.9	692.1
36	7/30/79	4	40	1.5	12.2	9.1	692.4
36	8/ 1/79			NO DATA	0.0	0.0	692.4
36	8/ 1/79			NO DATA	8.1	8.1	700.5
36	8/ 8/79	20	0	0.0	0.0	0.0	700.5
36	8/ 8/79	20	9	33.9	5.1	5.1	705.6
36	8/ 8/79	20	13	30.5	7.1	7.1	707.6
36	8/ 8/79	20	15	129.5	11.4	11.4	711.9
36	8/ 8/79	20	22	28.3	14.7	14.7	715.2
36	8/ 8/79	20	25	15.2	15.5	15.5	716.0
36	8/ 8/79	20	31	30.5	18.5	18.5	719.0
36	8/ 8/79	20	43	5.1	19.6	19.6	720.1
36	8/ 8/79	21	3	0.8	19.8	19.8	720.3
36	8/ 8/79	21	43	0.4	20.1	20.1	720.6
36	8/ 8/79	21	48	3.0	20.3	20.3	720.8
36	8/ 8/79	21	58	9.1	21.8	21.8	722.3
36	8/ 8/79	22	8	3.0	22.4	22.4	722.8
36	8/ 8/79	22	14	43.2	26.7	26.7	727.2
36	8/ 8/79	22	20	35.6	30.2	30.2	730.7
36	8/ 8/79	22	28	7.6	31.2	31.2	731.7
36	8/ 9/79	20	18	0.0	0.0	0.0	731.7
36	8/ 9/79	20	21	38.1	1.9	1.9	733.6
36	8/ 9/79	20	32	13.4	4.4	4.4	736.1
36	8/ 9/79	20	34	49.0	6.0	6.0	737.7
36	8/ 9/79	20	40	16.3	7.6	7.6	739.4
36	8/13/79			NO DATA	0.0	0.0	739.4
36	8/13/79			NO DATA	0.8	0.8	740.1
36	8/19/79	1	40	0.0	0.0	0.0	740.1

TABLE B1- 6. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
36	8/19/79	1	42	15.7	0.5	0.5	740.6
36	8/19/79	2	20	0.4	0.8	0.8	740.9
36	8/19/79	2	27	13.5	2.4	2.4	742.5
36	8/19/79	2	34	56.0	8.9	8.9	749.0
36	8/19/79	2	39	22.0	10.7	10.7	750.8
36	8/19/79	2	44	18.8	12.3	12.3	752.4
36	8/19/79	2	48	3.9	12.6	12.6	752.7
36	8/19/79	2	52	15.7	13.6	13.6	753.7
36	8/19/79	2	57	12.6	14.6	14.6	754.8
36	8/19/79	3	1	3.9	14.9	14.9	755.0
36	8/19/79	3	4	47.1	17.3	17.3	757.4
36	8/19/79	3	11	22.4	19.9	19.9	760.0
36	8/19/79	3	24	4.8	20.9	20.9	761.0
36	8/19/79	3	49	3.1	22.2	22.2	762.4
36	8/19/79	3	59	3.1	22.8	22.8	762.9
36	8/19/79	4	24	1.3	23.3	23.3	763.4
36	8/19/79	5	20	0.3	23.5	23.5	763.7
36	8/19/79	5	24	39.2	26.2	26.2	766.3
36	8/19/79	5	30	5.2	26.7	26.7	766.8
36	8/19/79	5	31	47.1	27.5	27.5	767.6
36	8/19/79	5	34	5.2	27.7	27.7	767.8
36	8/19/79	5	35	62.8	28.8	28.8	768.9
36	8/19/79	5	42	17.9	30.9	30.9	771.0
36	8/19/79	5	45	5.2	31.1	31.1	771.2
36	8/19/79	5	54	10.5	32.7	32.7	772.8
36	8/19/79	5	56	39.2	34.0	34.0	774.1
36	8/19/79	6	1	6.3	34.5	34.5	774.6
36	8/19/79	6	2	47.1	35.3	35.3	775.4
36	8/19/79	6	4	23.5	36.1	36.1	776.2
36	8/19/79	6	7	36.6	37.9	37.9	778.0
36	8/19/79	6	11	19.6	39.2	39.2	779.4
36	8/19/79	6	18	9.0	40.3	40.3	780.4
36	8/19/79	6	24	5.2	40.8	40.8	780.9
36	8/19/79	6	29	3.1	41.1	41.1	781.2
36	8/19/79	6	31	15.7	41.6	41.6	781.7
36	8/19/79	6	38	4.5	42.1	42.1	782.2
36	8/19/79	6	54	1.0	42.4	42.4	782.5
36	8/19/79	7	39	0.7	42.9	42.9	783.0
36	8/19/79	7	46	4.5	43.4	43.4	783.5
36	8/19/79	7	49	10.5	43.9	43.9	784.1
36	8/19/79	20	57	0.0	0.0	43.9	784.1
36	8/19/79	21	1	71.0	4.7	48.7	788.8
36	8/19/79	21	4	21.0	5.8	49.7	789.8
36	8/19/79	21	10	2.6	6.0	50.0	790.1
36	8/19/79	21	15	37.9	9.2	53.1	793.3
36	8/19/79	21	21	10.5	10.3	54.2	794.3
36	8/19/79	21	23	63.1	12.4	56.3	796.4
36	8/19/79	21	29	39.4	16.3	60.2	800.4
36	8/19/79	21	32	5.3	16.6	60.5	800.6
36	8/19/79	21	34	47.3	18.1	62.1	802.2
36	8/19/79	21	39	9.5	18.9	62.9	803.0
36	8/19/79	21	41	15.8	19.5	63.4	803.5
36	8/19/79	21	46	6.3	20.0	63.9	804.0
36	8/19/79	21	50	7.9	20.5	64.4	804.6
36	8/19/79	21	52	31.6	21.6	65.5	805.6
36	8/19/79	22	4	2.6	22.1	66.0	806.1
36	8/19/79	22	14	7.9	23.4	67.3	807.5
36	8/19/79	22	17	15.8	24.2	68.1	808.2
36	8/19/79	22	27	1.6	24.5	68.4	808.5
36	8/19/79	22	34	6.8	25.2	69.2	809.3
36	8/19/79	22	39	6.3	25.8	69.7	809.8
36	8/19/79	22	59	0.5	26.0	70.0	810.1
36	8/19/79	23	6	11.3	27.3	71.3	811.4
36	8/19/79	23	24	0.9	27.6	71.5	811.7
36	8/20/79	0	14	0.3	27.9	0.3	811.9
36	8/20/79	0	16	7.9	28.1	0.5	812.2
36	8/20/79	0	46	0.0	28.1	0.5	812.2
36	8/20/79	1	2	3.9	29.2	1.6	813.2
36	8/20/79	1	34	1.5	30.0	2.4	814.0
36	8/21/79	18	46	0.0	0.0	0.0	814.0
36	8/21/79	18	50	37.5	2.5	2.5	816.5
36	8/21/79	18	55	100.0	10.8	10.8	824.9
36	8/21/79	18	59	75.0	15.8	15.8	829.9
36	8/21/79	19	1	183.3	21.9	21.9	836.0
36	8/21/79	19	6	33.3	24.7	24.7	838.7
36	8/21/79	19	8	58.3	26.7	26.7	840.7
36	8/21/79	19	14	22.2	28.9	28.9	842.9
36	8/21/79	19	19	33.3	31.7	31.7	845.7
36	8/21/79	19	25	8.3	32.5	32.5	846.5
36	8/21/79	19	37	2.8	33.1	33.1	847.1
36	8/21/79	20	32	1.8	34.7	34.7	848.8
36	8/21/79	21	9	0.5	35.0	35.0	849.0
36	8/21/79	21	42	1.0	35.6	35.6	849.6
36	8/22/79	19	5	0.0	0.0	0.0	849.6
36	8/22/79	19	8	28.6	1.4	1.4	851.0
36	8/22/79	19	13	17.1	2.9	2.9	852.4
36	8/22/79	19	18	54.9	7.4	7.4	857.0
36	8/22/79	19	21	57.1	10.3	10.3	859.9
36	8/22/79	19	25	12.9	11.1	11.1	860.7
36	8/22/79	19	31	2.9	11.4	11.4	861.0
36	8/26/79	19	25	0.0	0.0	0.0	861.0
36	8/26/79	19	46	6.0	2.1	2.1	863.1
36	8/26/79	20	5	3.3	3.2	3.2	864.2
36	8/26/79	20	25	6.4	5.3	5.3	866.3
36	8/26/79	20	45	3.2	6.3	6.3	867.4
36	8/28/79			NO DATA	0.0	0.0	867.4
36	8/28/79			NO DATA	1.3	1.3	868.6
36	9/ 5/79	20	0	0.0	0.0	0.0	868.6

TABLE B1- 6. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
36	9/ 5/79	20	2	29.7	1.0	1.0	869.6
36	9/ 5/79	20	8	4.9	1.5	1.5	870.1
36	9/ 5/79	20	41	1.3	2.2	2.2	870.9
36	9/ 5/79	21	15	4.8	4.9	4.9	873.6
36	9/ 5/79	21	23	7.4	5.9	5.9	874.6
36	9/ 5/79	21	35	6.2	7.2	7.2	875.8
36	9/ 5/79	21	53	4.1	8.4	8.4	877.0
36	9/ 5/79	22	3	3.0	8.9	8.9	877.5
36	9/ 5/79	22	13	1.5	9.2	9.2	877.8
36	9/ 5/79	23	3	0.6	9.7	9.7	878.3
36	9/24/79	5	24	0.0	0.0	0.0	878.3
36	9/24/79	5	44	3.8	1.3	1.3	879.6
36	9/24/79	6	14	1.0	1.8	1.8	880.1
36	9/24/79	6	34	2.3	2.5	2.5	880.8
36	9/24/79	6	54	3.8	3.8	3.8	882.1
36	9/24/79	7	0	2.5	4.1	4.1	882.3
36	9/24/79	7	44	0.3	4.3	4.3	882.6
36	9/24/79	9	24	0.2	4.6	4.6	882.9
36	9/24/79	9	42	1.7	5.1	5.1	883.4
36	9/24/79	10	4	0.7	5.3	5.3	883.6
36	9/24/79	10	24	1.5	5.8	5.8	884.1
36	9/24/79	10	44	1.5	6.3	6.3	884.6
36	9/24/79	11	1	2.7	7.1	7.1	885.4
36	9/24/79	11	7	2.5	7.4	7.4	885.6
36	9/24/79	11	22	6.1	8.9	8.9	887.2
36	9/24/79	11	29	2.2	9.1	9.1	887.4
36	9/24/79	11	40	5.5	10.2	10.2	888.4
36	10/ 1/79	9	18	0.0	0.0	0.0	888.4
36	10/ 1/79	9	30	1.2	0.2	0.2	888.7
36	10/ 1/79	9	42	1.2	0.5	0.5	888.9
36	10/ 1/79	9	48	7.1	1.2	1.2	889.6
36	10/ 1/79	12	0	0.2	1.7	1.7	890.1
36	10/ 1/79	12	50	0.3	1.9	1.9	890.3
36	10/ 1/79	13	0	7.1	3.1	3.1	891.5
36	10/ 1/79	13	18	7.1	5.2	5.2	893.7
36	10/ 1/79	13	30	3.6	5.9	5.9	894.4
36	10/ 1/79	14	0	1.9	6.9	6.9	895.3
36	10/ 1/79	14	42	0.7	7.4	7.4	895.8
36	10/ 3/79			NO DATA	0.0	0.0	895.8
36	10/ 3/79			NO DATA	3.3	3.3	899.1
36	10/11/79			NO DATA	0.0	0.0	899.1
36	10/11/79			NO DATA	2.5	2.5	901.6
36	10/18/79	22	32	0.0	0.0	0.0	901.6
36	10/18/79	22	45	6.0	1.3	1.3	902.9
36	10/18/79	23	0	2.1	1.8	1.8	903.5
36	10/18/79	23	3	15.5	2.6	2.6	904.2
36	10/18/79	23	23	3.1	3.6	3.6	905.3
36	10/18/79	23	25	15.5	4.1	4.1	905.8
36	10/18/79	23	27	7.8	4.4	4.4	906.0
36	10/18/79	23	29	23.3	5.2	5.2	906.8
36	10/18/79	23	34	6.2	5.7	5.7	907.3
36	10/18/79	23	42	5.8	6.5	6.5	908.1
36	10/18/79	23	46	31.1	8.5	8.5	910.2
36	10/18/79	23	55	6.9	9.6	9.6	911.2
36	10/18/79	24	0	24.9	11.7	11.7	913.3
36	10/19/79	0	9	3.5	12.2	0.5	913.8
36	10/19/79	0	22	4.8	13.2	1.6	914.9
36	10/21/79	21	17	0.0	0.0	0.0	914.9
36	10/21/79	21	20	10.4	0.5	0.5	915.4
36	10/21/79	21	24	7.8	1.0	1.0	915.9
36	10/21/79	22	41	0.6	1.8	1.8	916.7
36	10/21/79	22	46	15.6	3.1	3.1	918.0
36	10/21/79	22	53	2.2	3.4	3.4	918.2
36	10/21/79	22	56	83.2	7.5	7.5	922.4
36	10/21/79	23	1	21.8	9.4	9.4	924.2
36	10/21/79	23	11	3.1	9.9	9.9	924.7
36	10/21/79	23	16	15.6	11.2	11.2	926.0
36	10/21/79	23	20	31.2	13.3	13.3	928.1
36	10/21/79	23	21	109.2	15.1	15.1	929.9
36	10/21/79	23	23	46.8	16.6	16.6	931.5
36	10/21/79	23	28	12.5	17.7	17.7	932.5
36	10/21/79	23	31	46.8	20.0	20.0	934.9
36	10/22/79	0	1	4.7	22.4	2.3	937.2
36	10/22/79	0	10	3.5	22.9	2.9	937.7
36	10/22/79	0	16	2.6	23.1	3.1	938.0
36	10/22/79	1	0	1.1	23.0	3.0	938.8
36	10/22/79	1	9	6.9	25.0	4.9	939.8
36	10/22/79	1	17	3.9	25.5	5.5	940.3
36	10/22/79	1	34	0.9	25.7	5.7	940.6
36	10/22/79	2	6	1.9	26.8	6.8	941.6
36	10/22/79	2	29	2.0	27.6	7.5	942.4
36	10/22/79	3	11	0.4	27.8	7.8	942.7
36	10/22/79	3	46	3.1	29.6	9.6	944.5
36	10/22/79	4	6	5.5	31.5	11.4	946.3
36	10/22/79	4	36	6.8	34.8	14.8	949.7
36	10/22/79	4	55	7.4	37.2	17.2	952.0
36	10/22/79	5	29	9.6	42.6	22.6	957.5
36	10/22/79	5	41	15.6	45.7	25.7	960.6
36	10/22/79	6	1	9.4	48.9	28.9	963.7
36	10/22/79	6	26	7.5	52.0	32.0	966.8
36	10/22/79	6	43	5.5	53.5	33.5	968.4
36	10/22/79	7	6	4.7	55.4	35.3	970.2
36	10/22/79	7	36	4.7	57.7	37.7	972.6
36	10/22/79	8	22	6.4	62.6	42.6	977.5
36	10/22/79	8	46	2.6	63.7	43.7	978.5
36	10/22/79	8	56	1.6	63.9	43.9	978.8
36	10/22/79	9	18	2.8	65.0	45.0	979.8
36	10/22/79	9	22	11.7	65.8	45.7	980.6

TABLE B1- 6. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
36	10/22/79	9	43	2.2	66.5	46.5	981.4
36	10/22/79	9	48	6.2	67.1	47.0	981.9
36	10/22/79	10	1	3.6	67.8	47.8	982.7
36	10/22/79	10	18	0.9	68.1	48.1	982.9
36	10/22/79	10	22	15.6	69.1	49.1	984.0
36	10/22/79	10	31	6.9	70.2	50.2	985.0
36	10/22/79	10	39	7.8	71.2	51.2	986.1
36	10/22/79	10	45	2.6	71.5	51.5	986.3
36	10/22/79	10	54	5.2	72.3	52.2	987.1
36	10/22/79	10	57	5.2	72.5	52.5	987.4
36	10/22/79	11	6	6.9	73.6	53.5	988.4
36	10/22/79	11	18	6.5	74.9	54.8	989.7
36	10/22/79	11	24	5.2	75.4	55.4	990.2
36	10/22/79	11	31	2.2	75.6	55.6	990.5
36	10/22/79	11	40	17.3	78.2	58.2	993.1
36	10/22/79	11	46	7.8	79.0	59.0	993.9
36	10/22/79	11	51	6.2	79.5	59.5	994.4
36	10/22/79	11	56	28.1	81.9	61.9	996.7
36	10/22/79	12	11	6.2	83.4	63.4	998.3
36	10/22/79	13	40	0.7	84.5	64.5	999.3
36	10/22/79	15	18	0.2	84.7	64.7	999.6
36	10/22/79	17	42	0.1	85.0	65.0	999.8
36	10/22/79	20	0	0.5	86.0	66.0	1000.9
36	10/22/79	21	54	1.0	87.9	67.8	1002.7
36	10/22/79	22	16	0.7	88.1	68.1	1003.0
36	10/22/79	23	36	0.4	88.6	68.6	1003.5
36	10/23/79	1	40	0.3	89.2	0.5	1004.0
36	10/31/79	5	40	0.0	0.0	0.0	1004.0
36	10/31/79	6	27	0.7	0.5	0.5	1004.5
36	10/31/79	8	5	0.3	1.0	1.0	1005.0
36	10/31/79	8	44	1.2	1.8	1.8	1005.8
36	10/31/79	8	46	15.6	2.3	2.3	1006.3
36	10/31/79	8	52	5.2	2.9	2.9	1006.9
36	10/31/79	9	5	2.4	3.4	3.4	1007.4
36	10/31/79	9	10	3.1	3.6	3.6	1007.6
36	10/31/79	9	17	4.5	4.2	4.2	1008.2
36	10/31/79	9	32	4.2	5.2	5.2	1009.2
36	10/31/79	9	40	7.8	6.2	6.2	1010.2
36	10/31/79	9	52	2.6	6.8	6.8	1010.8
36	10/31/79	10	2	3.1	7.3	7.3	1011.3
36	10/31/79	10	20	1.7	7.8	7.8	1011.8
36	10/31/79	10	30	3.1	8.3	8.3	1012.3
36	10/31/79	10	43	1.2	8.6	8.6	1012.6
36	10/31/79	10	54	4.3	9.4	9.4	1013.3
36	10/31/79	11	2	3.9	9.9	9.9	1013.9
36	10/31/79	11	6	7.8	10.4	10.4	1014.4
36	10/31/79	11	20	4.5	11.4	11.4	1015.4
36	11/ 5/79	8	10	0.0	0.0	0.0	1015.4
36	11/ 5/79	11	36	0.5	1.7	1.7	1017.2
36	11/ 5/79	12	2	2.7	2.9	2.9	1018.3
36	11/ 5/79	12	23	0.8	3.2	3.2	1018.6
36	11/ 5/79	12	30	2.5	3.5	3.5	1018.9
36	11/ 5/79	13	53	0.4	4.0	4.0	1019.5
36	11/ 5/79	13	57	4.3	4.3	4.3	1019.8
36	11/ 5/79	15	22	0.4	4.9	4.9	1020.3
36	11/ 5/79	15	27	3.5	5.2	5.2	1020.6
36	11/ 5/79	16	48	0.9	6.4	6.4	1021.8
36	11/ 5/79	16	55	7.4	7.2	7.2	1022.7
36	11/ 5/79	17	10	1.2	7.5	7.5	1022.9
36	11/ 5/79	17	28	1.0	7.8	7.8	1023.2
36	11/ 5/79	18	10	0.4	8.1	8.1	1023.5
36	11/ 5/79	18	30	1.7	8.7	8.7	1024.1
36	11/ 5/79	18	45	4.6	9.8	9.8	1025.3
36	11/ 5/79	20	40	0.3	10.4	10.4	1025.8
36	11/ 9/79			SNOW	0.0	0.0	1025.8
36	11/ 9/79			SNOW	1.0	1.0	1026.9
36	11/12/79			SNOW	0.0	0.0	1026.9
36	11/12/79			SNOW	2.0	2.0	1028.9
36	11/20/79	19	30	0.0	0.0	0.0	1028.9
36	11/20/79	24	0	0.1	0.5	0.5	1029.4
36	11/21/79	0	25	1.9	1.3	0.8	1030.2
36	11/21/79	0	58	3.8	3.4	2.9	1032.3
36	11/21/79	1	17	1.7	3.9	3.4	1032.8
36	11/21/79	2	0	1.1	4.7	4.2	1033.6
36	11/21/79	6	0	0.1	5.0	4.5	1033.9
36	11/21/79	11	0	0.1	5.3	4.7	1034.1
36	11/21/79	13	0	0.3	5.8	5.3	1034.7
36	11/21/79	15	15	0.2	6.3	5.8	1035.2
36	11/21/79	15	26	5.7	7.4	6.8	1036.2
36	11/21/79	15	40	4.5	8.4	7.9	1037.3
36	11/21/79	15	44	7.9	8.9	8.4	1037.8
36	11/21/79	16	7	0.7	9.2	8.7	1038.1
36	11/21/79	16	12	9.5	10.0	9.5	1038.9
36	11/21/79	16	20	3.9	10.5	10.0	1039.4
36	11/21/79	17	4	0.7	11.0	10.5	1039.9
36	11/21/79	17	15	1.4	11.3	10.8	1040.2
36	11/21/79	17	25	7.9	12.6	12.1	1041.5
36	11/21/79	17	35	4.7	13.4	12.9	1042.3
36	11/21/79	17	50	1.1	13.7	13.1	1042.5
36	11/21/79	18	15	1.9	14.5	13.9	1043.3
36	11/21/79	18	40	1.9	15.2	14.7	1044.1
36	11/27/79			SNOW	0.0	0.0	1044.1
36	11/27/79			SNOW	5.3	5.3	1049.5
36	11/28/79			SNOW	0.0	0.0	1049.5
36	11/28/79			SNOW	5.6	5.6	1055.0
36	12/22/79			NO DATA	0.0	0.0	1055.0

TABLE B1- 6. CONCLUDED

GAGE	DATE	HOUR MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
36	12/22/79		NO DATA	8.4	8.4	1063.4
36	12/23/79		NO DATA	0.0	0.0	1063.4
36	12/23/79		NO DATA	8.4	8.4	1071.8

GAGE	DATE	HOUR MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM

TABLE B1- 7. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1980 GAGE 31

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
31	4/ 3/80	2	0	0.0	0.0	0.0	0.0
31	4/ 3/80	2	10	1.7	0.3	0.3	0.3
31	4/ 3/80	2	35	2.7	1.4	1.4	1.4
31	4/ 3/80	3	0	1.4	2.0	2.0	2.0
31	4/ 3/80	3	10	1.7	2.3	2.3	2.3
31	4/ 3/80	3	20	3.4	2.8	2.8	2.8
31	4/ 3/80	3	48	1.2	3.4	3.4	3.4
31	4/ 3/80	4	0	8.5	5.1	5.1	5.1
31	4/ 3/80	4	40	0.8	5.6	5.6	5.6
31	4/ 3/80	4	50	5.1	6.5	6.5	6.5
31	4/ 3/80	5	10	0.8	6.8	6.8	6.8
31	4/ 3/80	5	20	1.7	7.1	7.1	7.1
31	4/ 3/80	5	26	2.8	7.3	7.3	7.3
31	4/ 3/80	5	30	12.7	8.2	8.2	8.2
31	4/ 3/80	5	55	0.7	8.5	8.5	8.5
31	4/ 3/80	12	30	0.0	8.5	8.5	8.5
31	4/ 3/80	13	10	2.1	9.9	9.9	9.9
31	4/ 3/80	13	30	2.5	10.7	10.7	10.7
31	4/ 3/80	14	50	0.6	11.6	11.6	11.6
31	4/ 3/80	15	20	1.1	12.1	12.1	12.1
31	4/ 3/80	15	40	1.7	12.7	12.7	12.7
31	4/ 6/80			NO DATA	0.0	0.0	12.7
31	4/ 6/80			NO DATA	2.5	2.5	15.2
31	4/ 8/80			NO DATA	0.0	0.0	15.2
31	4/ 8/80			NO DATA	2.5	2.5	17.8
31	4/14/80			NO DATA	0.0	0.0	17.8
31	4/14/80			NO DATA	2.5	2.5	20.3
31	5/10/80			NO DATA	0.0	0.0	20.3
31	5/10/80			NO DATA	3.0	3.0	23.4
31	5/12/80			NO DATA	0.0	0.0	23.4
31	5/12/80			NO DATA	3.0	3.0	26.4
31	5/14/80			NO DATA	0.0	0.0	26.4
31	5/14/80			NO DATA	0.5	0.5	26.9
31	5/16/80			NO DATA	0.0	0.0	26.9
31	5/16/80			NO DATA	1.5	1.5	28.4
31	5/17/80	7	50	0.0	0.0	0.0	28.4
31	5/17/80	8	0	8.8	1.5	1.5	29.9
31	5/17/80	8	20	1.5	1.9	1.9	30.4
31	5/17/80	8	30	2.9	2.4	2.4	30.9
31	5/17/80	12	0	0.1	2.9	2.9	31.4
31	5/17/80	19	50	0.0	2.9	2.9	31.4
31	5/17/80	19	54	7.3	3.4	3.4	31.9
31	5/17/80	20	0	4.9	3.9	3.9	32.3
31	5/17/80	20	4	21.9	5.4	5.4	33.8
31	5/17/80	20	9	17.5	6.8	6.8	35.3
31	5/17/80	20	30	2.1	7.6	7.6	36.0
31	5/17/80	20	35	5.8	8.0	8.0	36.5
31	5/17/80	20	45	1.5	8.3	8.3	36.7
31	5/17/80	21	0	7.8	10.2	10.2	38.7
31	5/17/80	21	20	2.5	11.2	11.2	39.7
31	5/17/80	21	50	1.0	11.7	11.7	40.1
31	5/17/80	24	0	0.1	11.9	11.9	40.4
31	5/18/80	2	11	0.2	12.4	0.5	40.9
31	5/18/80	2	25	2.1	12.9	1.8	41.4
31	5/18/80	8	0	0.0	13.2	1.2	41.6
31	5/18/80	10	30	0.3	13.9	1.9	42.3
31	5/18/80	12	50	0.1	14.1	2.2	42.6
31	5/18/80	13	10	0.7	14.4	2.4	42.8
31	5/18/80	13	30	2.2	15.1	3.2	43.5
31	5/18/80	14	10	1.5	16.1	4.1	44.5
31	5/18/80	14	30	2.2	16.8	4.9	45.3
31	5/18/80	15	0	1.5	17.8	5.8	46.2
31	5/27/80	18	35	0.0	0.0	0.0	46.2
31	5/27/80	18	41	45.8	5.0	5.0	51.2
31	5/27/80	18	43	74.6	7.5	7.5	53.7
31	5/27/80	18	45	74.6	10.0	10.0	56.2
31	5/27/80	18	46	74.7	11.2	11.2	57.4
31	5/27/80	18	48	59.7	13.2	13.2	59.4
31	5/27/80	18	49	134.3	15.4	15.4	61.7
31	5/27/80	18	51	29.5	16.4	16.4	62.7
31	5/27/80	18	52	74.7	17.7	17.7	63.9
31	5/27/80	18	54	14.5	18.2	18.2	64.4
31	5/27/80	18	56	104.6	21.7	21.7	67.9
31	5/27/80	19	0	29.5	23.6	23.6	69.9
31	5/27/80	19	5	5.0	24.4	24.4	70.6
31	5/27/80	19	15	1.5	24.6	24.6	70.9
31	5/28/80	19	30	0.0	0.0	0.0	70.9
31	5/28/80	20	10	1.2	0.8	0.8	71.6
31	5/28/80	21	0	0.3	1.0	1.0	71.9
31	5/29/80	1	53	0.0	1.0	0.0	71.9
31	5/29/80	1	56	57.6	3.9	2.9	74.8
31	5/29/80	1	58	70.7	6.3	5.2	77.1
31	5/29/80	2	1	26.2	7.6	6.5	78.5
31	5/29/80	2	5	3.5	7.9	6.8	78.7
31	5/29/80	2	7	15.7	8.4	7.3	79.2
31	5/29/80	2	10	5.2	8.6	7.6	79.5
31	5/29/80	5	16	0.1	8.9	7.9	79.8
31	5/29/80	7	3	0.3	9.4	8.4	80.3
31	5/29/80	7	8	56.6	14.1	13.1	85.0
31	5/29/80	7	15	47.1	19.6	18.6	90.5
31	5/29/80	7	17	31.4	20.7	19.6	91.5
31	5/29/80	7	20	5.2	20.9	19.9	91.8
31	5/29/80	7	23	20.9	22.0	20.9	92.9
31	5/29/80	7	25	47.1	23.6	22.5	94.4

TABLE 81- 7. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
31	5/29/80	7	30	28.3	25.9	24.9	96.8
31	5/29/80	7	32	78.6	28.5	27.5	99.4
31	5/29/80	7	33	78.6	29.8	28.8	100.7
31	5/29/80	7	39	26.2	32.5	31.4	103.3
31	5/29/80	7	45	26.2	35.1	34.0	105.9
31	5/29/80	8	11	0.6	35.3	34.3	106.2
31	5/29/80	8	17	13.1	36.7	35.6	107.5
31	5/29/80	8	23	91.6	45.8	44.8	116.7
31	5/29/80	8	33	18.9	49.0	47.9	119.8
31	5/29/80	8	45	5.2	50.0	49.0	120.9
31	5/29/80	9	34	0.0	50.0	49.0	120.9
31	5/29/80	9	38	90.3	56.0	55.0	126.9
31	5/29/80	9	42	15.7	57.1	56.0	127.9
31	5/29/80	9	51	1.7	57.3	56.3	128.2
31	5/29/80	10	3	5.2	58.4	57.3	129.3
31	5/29/80	11	15	0.2	58.7	57.6	129.5
31	5/29/80	11	20	6.3	59.2	58.1	130.0
31	5/29/80	11	30	1.6	59.4	58.4	130.3
31	5/30/80	0	15	0.0	0.0	0.0	130.3
31	5/30/80	0	20	66.8	5.6	5.6	135.9
31	5/30/80	0	23	11.7	6.2	6.2	136.5
31	5/30/80	0	30	5.0	6.7	6.7	137.0
31	5/30/80	0	40	1.8	7.0	7.0	137.3
31	5/30/80	1	10	0.6	7.3	7.3	137.6
31	5/30/80	1	13	11.7	7.9	7.9	138.2
31	5/30/80	1	20	10.0	9.1	9.1	139.4
31	5/30/80	1	30	5.3	10.0	10.0	140.3
31	5/30/80	1	40	1.8	10.3	10.3	140.6
31	5/30/80	1	50	1.8	10.6	10.6	140.9
31	5/30/80	1	55	10.6	11.4	11.4	141.7
31	5/30/80	2	5	3.5	12.0	12.0	142.3
31	5/30/80	2	20	3.5	12.9	12.9	143.2
31	5/30/80	2	40	4.4	14.4	14.4	144.7
31	5/30/80	3	10	0.6	14.7	14.7	145.0
31	5/30/80	3	20	3.5	15.2	15.2	145.5
31	5/30/80			NO DATA	0.0	15.2	145.5
31	5/30/80			NO DATA	1.0	16.3	146.6
31	6/ 1/80			NO DATA	0.0	0.0	146.6
31	6/ 1/80			NO DATA	3.8	3.8	150.4
31	6/ 2/80	7	57	0.0	0.0	0.0	150.4
31	6/ 2/80	8	21	3.2	1.3	1.3	151.6
31	6/ 2/80	8	32	4.2	2.0	2.0	152.4
31	6/ 2/80	8	41	3.4	2.5	2.5	152.9
31	6/ 2/80	8	54	2.3	3.0	3.0	153.4
31	6/ 2/80	9	0	7.6	3.8	3.8	154.2
31	6/ 2/80	9	21	7.3	6.3	6.3	156.7
31	6/ 2/80	16	27	0.0	0.0	6.3	156.7
31	6/ 2/80	16	33	18.4	1.8	8.2	158.6
31	6/ 2/80	16	34	78.6	3.1	9.5	159.9
31	6/ 2/80	16	41	22.5	5.8	12.1	162.5
31	6/ 2/80	16	43	78.7	8.4	14.7	165.1
31	6/ 2/80	16	44	78.7	9.7	16.1	166.4
31	6/ 2/80	16	46	39.3	11.0	17.4	167.7
31	6/ 2/80	16	51	47.2	15.0	21.3	171.7
31	6/ 2/80	16	54	26.2	16.3	22.6	173.0
31	6/ 2/80	16	57	26.2	17.6	23.9	174.3
31	6/ 2/80	17	6	10.5	19.1	25.5	175.9
31	6/ 2/80	17	11	56.7	23.9	30.2	180.6
31	6/ 2/80	17	17	21.0	26.0	32.3	182.7
31	6/ 2/80	17	20	52.5	28.6	34.9	185.3
31	6/ 2/80	17	27	11.2	29.9	36.3	186.6
31	6/ 2/80	17	53	1.6	30.7	37.0	187.4
31	6/ 2/80	18	24	2.5	32.0	38.4	188.7
31	6/ 4/80			NO DATA	0.0	0.0	188.7
31	6/ 4/80			NO DATA	4.1	4.1	192.8
31	6/ 6/80	16	30	0.0	0.0	0.0	192.8
31	6/ 6/80	18	33	93.9	4.7	4.7	197.5
31	6/ 6/80	18	37	24.8	6.3	6.3	199.1
31	6/ 7/80	4	35	0.0	0.0	0.0	199.1
31	6/ 7/80	4	40	6.1	0.5	0.5	199.6
31	6/ 7/80	4	47	17.4	2.5	2.5	201.7
31	6/ 7/80	4	55	41.5	8.1	8.1	207.3
31	6/ 7/80	5	0	9.1	8.9	8.9	208.0
31	6/12/80			NO DATA	0.0	0.0	208.0
31	6/12/80			NO DATA	2.5	2.5	210.6
31	6/13/80			NO DATA	0.0	0.0	210.6
31	6/13/80			NO DATA	1.8	1.8	212.3
31	6/13/80	21	13	0.0	0.0	1.8	212.3
31	6/13/80	21	19	28.8	2.9	4.7	215.2
31	6/13/80	21	24	18.6	4.4	6.2	216.8
31	6/13/80	21	29	26.6	6.7	8.4	219.0
31	6/13/80	21	34	13.3	7.8	9.5	220.1
31	6/13/80	21	37	22.2	8.9	10.7	221.2
31	6/13/80	21	53	10.0	11.5	13.3	223.9
31	6/13/80	22	0	17.1	13.5	15.3	225.9
31	6/13/80	22	11	4.8	14.4	16.2	226.8
31	6/13/80	22	21	2.7	14.9	16.6	227.2
31	6/13/80	22	37	1.7	15.3	17.1	227.7
31	6/13/80	23	40	0.4	15.8	17.5	228.1
31	6/13/80	23	54	1.0	16.0	17.8	228.3
31	6/13/80	24	0	2.2	16.2	18.0	228.5
31	6/14/80	0	13	2.0	16.6	0.4	229.0
31	6/14/80	0	44	0.5	17.1	0.9	229.4

TABLE B1- 7. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
31	6/14/80	1	0	1.7	17.5	1.3	229.9
31	6/14/80	1	9	4.4	18.2	2.0	230.5
31	6/14/80	1	20	3.6	18.9	2.7	231.2
31	6/14/80	1	57	1.1	19.5	3.3	231.9
31	6/14/80	3	14	0.2	19.8	3.6	232.1
31	6/14/80	3	29	1.8	20.2	4.0	232.5
31	6/14/80	3	34	10.7	21.1	4.9	233.4
31	6/15/80	0	14	0.0	0.0	0.0	233.4
31	6/15/80	0	34	1.2	0.4	0.4	233.8
31	6/15/80	1	24	0.5	0.8	0.8	234.2
31	6/15/80	2	20	0.4	1.2	1.2	234.6
31	6/15/80	2	40	3.0	2.2	2.2	235.6
31	6/15/80	3	2	1.1	2.6	2.6	236.0
31	6/15/80	3	14	8.0	4.2	4.2	237.6
31	6/15/80	3	34	4.8	5.8	5.8	239.3
31	6/15/80	3	47	4.6	6.8	6.8	240.3
31	6/15/80	4	4	4.3	8.0	8.0	241.5
31	6/15/80	4	43	0.9	8.6	8.6	242.1
31	6/15/80	5	12	1.2	9.2	9.2	242.7
31	6/15/80	5	39	0.9	9.7	9.7	243.1
31	6/18/80			NO DATA	0.0	0.0	243.1
31	6/18/80			NO DATA	3.0	3.0	246.1
31	7/ 9/80			NO DATA	0.0	0.0	246.1
31	7/ 9/80			NO DATA	2.5	2.5	248.7
31	7/16/80			NO DATA	0.0	0.0	248.7
31	7/16/80			NO DATA	19.3	19.3	268.0
31	7/24/80	3	48	0.0	0.0	0.0	268.0
31	7/24/80	3	55	11.9	1.4	1.4	269.4
31	7/24/80	4	16	0.8	1.7	1.7	269.6
31	7/24/80	4	28	2.8	2.2	2.2	270.2
31	7/24/80	4	42	7.1	3.9	3.9	271.8
31	7/24/80	4	45	5.5	4.2	4.2	272.1
31	7/24/80	4	48	16.6	5.0	5.0	273.0
31	7/24/80	4	52	8.3	5.5	5.5	273.5
31	7/24/80	5	41	0.3	5.8	5.8	273.8
31	7/24/80	5	55	1.2	6.1	6.1	274.1
31	7/25/80			NO DATA	0.0	0.0	274.1
31	7/25/80			NO DATA	3.0	3.0	277.1
31	8/ 4/80			NO DATA	0.0	0.0	277.1
31	8/ 4/80			NO DATA	2.5	2.5	279.6
31	8/ 6/80	0	43	0.0	0.0	0.0	279.6
31	8/ 6/80	0	50	26.5	3.1	3.1	282.7
31	8/ 6/80	0	58	5.8	3.9	3.9	283.5
31	8/ 6/80	1	4	10.3	4.9	4.9	284.6
31	8/ 6/80	1	9	40.3	8.3	8.3	287.9
31	8/ 6/80	1	17	7.7	9.3	9.3	288.9
31	8/ 6/80	1	21	11.6	10.1	10.1	289.7
31	8/ 6/80	1	23	31.0	11.1	11.1	290.7
31	8/ 6/80	1	30	4.4	11.6	11.6	291.3
31	8/ 6/80	1	33	77.4	15.5	15.5	295.1
31	8/ 6/80	1	37	58.1	19.4	19.4	299.0
31	8/ 6/80	1	42	21.7	21.2	21.2	300.8
31	8/ 6/80	1	49	17.7	23.2	23.2	302.9
31	8/ 6/80	1	59	7.7	24.5	24.5	304.2
31	8/ 6/80	2	1	54.2	26.3	26.3	306.0
31	8/ 6/80	2	6	9.3	27.1	27.1	306.7
31	8/ 6/80	2	18	21.9	31.5	31.5	311.1
31	8/ 6/80	2	27	1.7	31.7	31.7	311.4
31	8/ 6/80	2	38	1.4	32.0	32.0	311.6
31	8/ 8/80			NO DATA	0.0	0.0	311.6
31	8/ 8/80			NO DATA	1.3	1.3	312.9
31	8/ 9/80	2	45	0.0	0.0	0.0	312.9
31	8/ 9/80	3	1	1.9	0.5	0.5	313.4
31	8/ 9/80	3	7	5.2	1.0	1.0	314.0
31	8/ 9/80	3	24	2.7	1.8	1.8	314.7
31	8/ 9/80	3	41	2.7	2.6	2.6	315.5
31	8/ 9/80	3	55	2.2	3.1	3.1	316.0
31	8/ 9/80	4	20	0.6	3.4	3.4	316.3
31	8/ 9/80	4	40	0.8	3.6	3.6	316.5
31	8/ 9/80	5	2	1.4	4.1	4.1	317.0
31	8/ 9/80	5	16	4.4	5.2	5.2	318.1
31	8/ 9/80	5	36	7.7	7.7	7.7	320.7
31	8/ 9/80	6	0	5.2	9.8	9.8	322.7
31	8/ 9/80	6	31	9.9	12.7	12.7	325.6
31	8/ 9/80	6	53	4.9	14.5	14.5	327.4
31	8/ 9/80	7	20	2.3	15.5	15.5	328.4
31	8/ 9/80	7	35	1.0	15.7	15.7	328.7
31	8/10/80			NO DATA	0.0	0.0	328.7
31	8/10/80			NO DATA	6.3	6.3	335.0
31	8/11/80	2	56	0.0	0.0	0.0	335.0
31	8/11/80	3	16	7.6	2.5	2.5	337.6
31	8/11/80	3	20	19.1	3.8	3.8	338.8
31	8/11/80	3	31	6.9	5.1	5.1	340.1
31	8/11/80	4	7	2.1	6.3	6.3	341.4
31	8/11/80	4	9	38.1	7.6	7.6	342.6
31	8/11/80	4	13	11.4	8.4	8.4	343.4
31	8/11/80	4	16	35.6	10.2	10.2	345.2
31	8/11/80	4	20	19.1	11.4	11.4	346.4
31	8/11/80	4	24	38.1	14.0	14.0	349.0
31	8/11/80	4	30	27.9	16.8	16.8	351.8
31	8/11/80	4	51	5.8	18.8	18.8	353.8
31	8/11/80	5	23	4.3	21.1	21.1	356.1

TABLE B1- 7. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
31	8/11/80	5	53	2.0	22.1	22.1	357.1
31	8/11/80	6	6	1.2	22.4	22.4	357.4
31	8/11/80	7	6	1.0	23.4	23.4	358.4
31	8/16/80	3	48	0.0	0.0	0.0	358.4
31	8/16/80	4	13	3.2	1.3	1.3	359.7
31	8/16/80	4	43	2.6	2.6	2.6	361.0
31	8/16/80	4	53	4.7	3.4	3.4	361.8
31	8/16/80	5	7	7.9	5.3	5.3	363.6
31	8/16/80	5	15	5.9	6.1	6.1	364.4
31	8/16/80	5	28	3.6	6.8	6.8	365.2
31	8/16/80	5	43	4.2	7.9	7.9	366.3
31	8/16/80	6	3	2.4	8.7	8.7	367.1
31	8/16/80	6	33	2.1	9.7	9.7	368.1
31	8/16/80	6	50	7.4	11.9	11.9	370.2
31	8/16/80	8	3	3.2	15.8	15.8	374.2
31	8/16/80	8	23	0.8	16.1	16.1	374.4
31	8/16/80	8	36	4.9	17.1	17.1	375.5
31	8/16/80	8	50	3.4	17.9	17.9	376.3
31	8/16/80	9	26	0.9	18.4	18.4	376.8
31	8/16/80	9	39	12.2	21.1	21.1	379.5
31	8/16/80	9	48	3.5	21.6	21.6	380.0
31	8/16/80	9	53	25.3	23.7	23.7	382.1
31	8/16/80	10	7	1.1	24.0	24.0	382.3
31	8/16/80	10	26	9.1	26.9	26.9	385.2
31	8/16/80	10	30	27.7	28.7	28.7	387.1
31	8/16/80	10	45	5.3	30.0	30.0	388.4
31	8/16/80	10	52	4.5	30.6	30.6	388.9
31	8/16/80	11	15	2.1	31.3	31.3	389.7
31	8/16/80	11	31	2.0	31.9	31.9	390.2
31	8/16/80	12	37	1.0	32.9	32.9	391.3
31	8/16/80	12	40	15.8	33.7	33.7	392.1
31	8/16/80	12	43	26.3	35.0	35.0	393.4
31	8/16/80	13	20	0.9	35.6	35.6	393.9
31	8/17/80			NO DATA	0.0	0.0	393.9
31	8/17/80			NO DATA	0.8	0.8	394.7
31	8/19/80			NO DATA	0.0	0.0	394.7
31	8/19/80			NO DATA	1.3	1.3	396.0
31	8/28/80			NO DATA	0.0	0.0	396.0
31	8/28/80			NO DATA	1.3	1.3	397.2
31	8/30/80	6	0	0.0	0.0	0.0	397.2
31	8/30/80	6	20	8.0	2.7	2.7	399.9
31	8/30/80	6	55	3.4	2.9	2.9	400.2
31	8/30/80	6	57	29.3	3.9	3.9	401.1
31	8/30/80	7	0	48.8	6.3	6.3	403.6
31	8/30/80	7	7	18.8	8.5	8.5	405.8
31	8/30/80	7	29	0.7	8.8	8.8	406.0
31	8/30/80	7	32	53.6	11.5	11.5	408.7
31	8/30/80	7	38	7.3	12.2	12.2	409.4
31	8/31/80			NO DATA	0.0	0.0	409.4
31	8/31/80			NO DATA	2.0	2.0	411.5
31	9/ 4/80	0	15	0.0	0.0	0.0	411.5
31	9/ 4/80	0	26	41.6	7.6	7.6	419.1
31	9/ 4/80	0	40	8.7	9.7	9.7	421.1
31	9/ 4/80	0	53	7.0	11.2	11.2	422.6
31	9/ 4/80	1	14	5.1	13.0	13.0	424.4
31	9/ 4/80	1	30	2.5	13.7	13.7	425.2
31	9/ 4/80	1	45	2.0	14.2	14.2	425.7
31	9/ 4/80	2	23	0.4	14.5	14.5	425.9
31	9/ 4/80	2	54	1.5	15.2	15.2	426.7
31	9/ 4/80	2	58	45.7	18.3	18.3	429.7
31	9/ 4/80	3	8	7.6	19.6	19.6	431.0
31	9/ 4/80	3	18	7.6	20.8	20.8	432.3
31	9/ 4/80	3	21	40.6	22.9	22.9	434.3
31	9/ 4/80	3	55	1.6	23.9	23.9	435.3
31	9/ 6/80	12	55	0.0	0.0	0.0	435.3
31	9/ 6/80	13	3	3.5	0.5	0.5	435.9
31	9/ 6/80	13	9	18.4	2.4	2.4	437.7
31	9/ 6/80	13	17	9.9	3.7	3.7	439.0
31	9/ 6/80	13	20	36.8	5.5	5.5	440.9
31	9/ 6/80	13	22	23.6	6.3	6.3	441.6
31	9/ 6/80	13	27	12.6	7.4	7.4	442.7
31	9/ 6/80	13	48	0.8	7.6	7.6	443.0
31	9/ 9/80	0	45	0.0	0.0	0.0	443.0
31	9/ 9/80	0	49	19.1	1.3	1.3	444.2
31	9/ 9/80	0	53	57.2	5.1	5.1	448.0
31	9/ 9/80	0	55	76.2	7.6	7.6	450.6
31	9/ 9/80	0	59	26.7	9.4	9.4	452.4
31	9/ 9/80	1	4	3.0	9.7	9.7	452.6
31	9/12/80			NO DATA	0.0	0.0	452.6
31	9/12/80			NO DATA	1.3	1.3	453.9
31	9/13/80			NO DATA	0.0	0.0	453.9
31	9/13/80			NO DATA	4.6	4.6	458.4
31	9/20/80	3	24	0.0	0.0	0.0	458.4
31	9/20/80	3	27	46.9	2.3	2.3	460.8
31	9/20/80	3	30	31.3	3.9	3.9	462.4
31	9/20/80	3	38	3.9	4.4	4.4	462.9
31	9/20/80	3	54	2.5	5.2	5.2	463.7
31	9/20/80	4	0	10.4	6.3	6.3	464.7
31	9/20/80	4	6	2.6	6.5	6.5	465.0
31	9/20/80	4	9	26.1	7.8	7.8	466.3
31	9/20/80	5	37	0.4	8.3	8.3	466.8
31	9/20/80	5	47	3.1	8.9	8.9	467.3

TABLE B1- 7. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
31	9/20/80	5	52	12.5	9.9	9.9	468.3
31	9/20/80	5	2	1.6	10.2	10.2	468.6
31	9/21/80			NO DATA	0.0	0.0	468.6
31	9/21/80			NO DATA	5.1	5.1	473.7
31	10/15/80			NO DATA	0.0	0.0	473.7
31	10/15/80			NO DATA	0.8	0.8	474.4
31	10/16/80	20	27	0.0	0.0	0.0	474.4
31	10/16/80	24	0	0.1	0.2	0.2	474.7
31	10/17/80	4	1	0.1	0.5	0.2	474.9
31	10/17/80	4	17	0.9	0.7	0.5	475.2
31	10/17/80	4	31	1.0	1.0	0.7	475.4
31	10/17/80	5	45	0.4	1.5	1.2	475.9
31	10/17/80	5	51	4.9	1.9	1.7	476.4
31	10/17/80	5	1	1.5	2.2	1.9	476.6
31	10/17/80	9	55	0.1	2.4	2.2	476.9
31	10/17/80	10	1	4.9	2.9	2.7	477.4
31	10/17/80	10	41	0.4	3.2	2.9	477.6
31	10/17/80	10	47	12.1	4.4	4.1	478.8
31	10/17/80	11	1	2.1	4.9	4.6	479.3
31	10/17/80	11	41	1.1	5.6	5.3	480.0
31	10/23/80	17	50	0.0	0.0	0.0	480.0
31	10/23/80	18	44	0.6	0.5	0.5	480.6
31	10/23/80	18	46	15.6	1.0	1.0	481.1
31	10/23/80	18	54	1.9	1.3	1.3	481.3
31	10/23/80	18	56	23.3	2.1	2.1	482.1
31	10/23/80	19	6	3.1	2.6	2.6	482.6
31	10/23/80	19	15	5.2	3.4	3.4	483.4
31	10/23/80	20	5	1.2	4.4	4.4	484.4
31	10/23/80	20	17	5.2	5.4	5.4	485.5
31	10/23/80	20	28	2.8	6.0	6.0	486.0
31	10/23/80	20	50	1.4	6.5	6.5	486.5
31	10/23/80	21	0	3.1	7.0	7.0	487.0
31	10/23/80	21	13	1.2	7.3	7.3	487.3
31	10/23/80	21	30	4.6	8.6	8.6	488.6
31	10/23/80	21	43	1.2	8.8	8.8	488.9
31	10/23/80	22	1	4.3	10.1	10.1	490.1
31	10/23/80	22	30	0.5	10.4	10.4	490.4
31	10/23/80	22	47	1.8	10.9	10.9	490.9
31	10/23/80	23	5	2.6	11.7	11.7	491.7
31	10/23/80	23	33	1.1	12.2	12.2	492.2
31	10/23/80	23	50	2.7	13.0	13.0	493.0
31	10/23/80	24	0	1.6	13.2	13.2	493.3
31	10/24/80	0	15	2.1	13.7	0.5	493.8
31	10/24/80	0	40	2.5	14.8	1.6	494.8
31	10/24/80	0	56	1.9	15.3	2.1	495.3
31	10/24/80	1	10	4.4	16.3	3.1	496.4
31	10/24/80	1	21	2.8	16.9	3.6	496.9
31	10/24/80	1	35	5.6	18.2	4.9	498.2
31	10/24/80	1	54	1.6	18.7	5.4	498.7
31	10/24/80	2	5	4.2	19.5	6.2	499.5
31	10/24/80	2	20	5.2	20.7	7.5	500.8
31	10/24/80	2	30	1.6	21.0	7.8	501.0
31	10/24/80	2	45	2.1	21.5	8.3	501.6
31	10/24/80	3	0	2.1	22.0	8.8	502.1
31	10/24/80	3	30	2.6	23.3	10.1	503.4
31	10/24/80	4	0	1.6	24.1	10.9	504.1
31	10/24/80	4	30	1.0	24.6	11.4	504.7
31	10/27/80			NO DATA	0.0	0.0	504.7
31	10/27/80			NO DATA	1.3	1.3	505.9

TABLE B1- 8. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1980 GAGE 32

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
32	4/ 3/80	2	0	0.0	0.0	0.0	0.0
32	4/ 3/80	2	17	1.6	0.4	0.4	0.4
32	4/ 3/80	2	40	1.7	1.1	1.1	1.1
32	4/ 3/80	3	7	2.5	2.2	2.2	2.2
32	4/ 3/80	3	20	2.1	2.7	2.7	2.7
32	4/ 3/80	3	30	1.3	2.9	2.9	2.9
32	4/ 3/80	3	45	1.8	3.3	3.3	3.3
32	4/ 3/80	3	50	5.3	3.8	3.8	3.8
32	4/ 3/80	3	58	5.0	4.5	4.5	4.5
32	4/ 3/80	4	45	0.6	4.9	4.9	4.9
32	4/ 3/80	5	18	1.2	5.6	5.6	5.6
32	4/ 3/80	5	50	1.3	6.2	6.2	6.2
32	4/ 3/80	6	0	2.7	6.7	6.7	6.7
32	4/ 3/80	10	42	0.0	6.7	6.7	6.7
32	4/ 3/80	11	35	0.3	6.9	6.9	6.9
32	4/ 3/80	11	38	8.9	7.4	7.4	7.4
32	4/ 3/80	11	50	2.2	7.8	7.8	7.8
32	4/ 3/80	11	55	5.3	8.2	8.2	8.2
32	4/ 3/80	12	13	2.2	8.9	8.9	8.9
32	4/ 3/80	12	50	1.4	9.8	9.8	9.8
32	4/ 3/80	13	35	1.8	11.1	11.1	11.1
32	4/ 3/80	14	40	0.6	11.8	11.8	11.8
32	4/ 3/80	16	0	0.7	12.7	12.7	12.7
32	4/ 6/80			NO DATA	0.0	0.0	12.7
32	4/ 6/80			NO DATA	2.5	2.5	15.2
32	4/ 8/80			NO DATA	0.0	0.0	15.2
32	4/ 8/80			NO DATA	2.5	2.5	17.8
32	4/14/80			NO DATA	0.0	0.0	17.8
32	4/14/80			NO DATA	1.3	1.3	19.0
32	5/10/80			NO DATA	0.0	0.0	19.0
32	5/10/80			NO DATA	1.8	1.8	20.8
32	5/12/80			NO DATA	0.0	0.0	20.8
32	5/12/80			NO DATA	1.8	1.8	22.6
32	5/14/80			NO DATA	0.0	0.0	22.6
32	5/14/80			NO DATA	1.8	1.8	24.4
32	5/16/80			NO DATA	0.0	0.0	24.4
32	5/16/80			NO DATA	2.0	2.0	26.4
32	5/17/80	8	0	0.0	0.0	0.0	26.4
32	5/17/80	8	10	7.2	1.2	1.2	27.6
32	5/17/80	8	40	1.0	1.7	1.7	28.1
32	5/17/80	11	0	0.1	1.9	1.9	28.3
32	5/17/80	19	50	0.0	1.9	1.9	28.3
32	5/17/80	19	58	3.6	2.4	2.4	28.8
32	5/17/80	20	0	21.7	3.1	3.1	29.6
32	5/17/80	20	6	14.5	4.6	4.6	31.0
32	5/17/80	20	15	8.0	5.8	5.8	32.2
32	5/17/80	20	44	1.0	6.3	6.3	32.7
32	5/17/80	20	51	10.4	7.5	7.5	33.9
32	5/17/80	21	22	4.7	9.9	9.9	36.3
32	5/17/80	21	31	3.2	10.4	10.4	36.8
32	5/17/80	21	50	0.8	10.6	10.6	37.0
32	5/17/80	24	0	0.1	10.9	10.9	37.3
32	5/18/80	5	0	0.1	11.4	0.5	37.8
32	5/18/80	10	10	0.0	11.6	0.7	38.0
32	5/18/80	13	5	0.1	11.8	1.0	38.2
32	5/18/80	13	25	3.6	13.0	2.2	39.5
32	5/18/80	14	0	0.8	13.5	2.7	39.9
32	5/18/80	14	30	1.4	14.2	3.4	40.7
32	5/18/80	14	50	1.4	14.7	3.9	41.1
32	5/27/80	17	15	0.0	0.0	0.0	41.1
32	5/27/80	17	20	13.3	1.1	1.1	42.3
32	5/27/80	18	52	0.2	1.4	1.4	42.5
32	5/27/80	18	55	27.8	2.8	2.8	43.9
32	5/27/80	18	58	55.5	5.6	5.6	46.7
32	5/27/80	19	1	27.8	6.9	6.9	48.1
32	5/27/80	19	3	41.7	8.3	8.3	49.5
32	5/27/80	19	5	58.3	10.3	10.3	51.4
32	5/27/80	19	18	7.7	11.9	11.9	53.1
32	5/28/80	19	35	0.0	0.0	0.0	53.1
32	5/28/80	20	20	1.6	1.2	1.2	54.3
32	5/28/80	21	20	0.5	1.7	1.7	54.8
32	5/28/80	24	0	0.0	1.7	1.7	54.8
32	5/29/80	2	0	0.2	2.2	0.5	55.3
32	5/29/80	2	3	9.5	2.7	1.0	55.8
32	5/29/80	2	7	29.7	4.7	3.0	57.8
32	5/29/80	2	15	9.3	5.9	4.2	59.0
32	5/29/80	5	20	0.0	5.9	4.2	59.0
32	5/29/80	7	10	0.3	6.4	4.7	59.5
32	5/29/80	7	17	27.6	9.6	7.9	62.7
32	5/29/80	7	20	74.2	13.4	11.6	66.4
32	5/29/80	7	25	47.5	17.3	15.6	70.4
32	5/29/80	7	29	70.5	22.0	20.3	75.1
32	5/29/80	7	31	22.3	22.8	21.0	75.8
32	5/29/80	7	37	4.5	23.3	21.5	76.3
32	5/29/80	7	40	29.7	24.7	23.0	77.8
32	5/29/80	7	45	11.9	25.7	24.0	78.8
32	5/29/80	8	17	0.5	26.2	24.5	79.3
32	5/29/80	8	27	4.5	27.0	25.2	80.1
32	5/29/80	8	36	59.4	35.9	34.1	89.0
32	5/29/80	8	43	8.5	36.9	35.1	89.9
32	5/29/80	8	52	1.6	37.1	35.4	90.2
32	5/29/80	8	58	9.9	38.1	36.4	91.2
32	5/30/80	0	20	0.0	0.0	0.0	91.2

TABLE B1- 8. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
32	5/30/80	0	24	3.6	0.2	0.2	91.4
32	5/30/80	0	26	35.8	1.4	1.4	92.6
32	5/30/80	0	35	3.2	1.9	1.9	93.1
32	5/30/80	0	40	5.7	2.4	2.4	93.6
32	5/30/80	0	44	3.6	2.6	2.6	93.8
32	5/30/80	1	12	0.0	2.6	2.6	93.8
32	5/30/80	1	18	9.6	3.6	3.6	94.8
32	5/30/80	1	22	35.8	6.0	6.0	97.2
32	5/30/80	1	28	11.9	7.2	7.2	98.3
32	5/30/80	1	31	23.9	8.4	8.4	99.5
32	5/30/80	1	43	2.4	8.8	8.8	100.0
32	5/30/80	2	0	2.5	9.6	9.6	100.7
32	5/30/80	2	16	0.9	9.8	9.8	101.0
32	5/30/80	2	24	3.6	10.3	10.3	101.5
32	5/30/80	2	30	4.8	10.7	10.7	101.9
32	5/30/80	2	40	1.4	11.0	11.0	102.2
32	5/30/80	2	50	1.4	11.2	11.2	102.4
32	5/30/80	3	12	0.7	11.5	11.5	102.6
32	5/30/80	3	20	3.6	11.9	11.9	103.1
32	5/30/80			NO DATA	0.0	11.9	103.1
32	5/30/80			NO DATA	1.0	13.0	104.1
32	6/ 1/80			NO DATA	0.0	0.0	104.1
32	6/ 1/80			NO DATA	3.8	3.8	107.9
32	6/ 2/80			NO DATA	0.0	0.0	107.9
32	6/ 2/80			NO DATA	6.6	6.6	114.6
32	6/ 2/80	16	31	0.0	0.0	6.6	114.6
32	6/ 2/80	16	35	7.1	0.5	7.1	115.0
32	6/ 2/80	16	47	0.0	0.5	7.1	115.0
32	6/ 2/80	16	49	92.7	3.6	10.2	118.1
32	6/ 2/80	16	51	49.9	5.2	11.8	119.8
32	6/ 2/80	16	53	35.7	6.4	13.0	121.0
32	6/ 2/80	16	55	99.9	9.7	16.4	124.3
32	6/ 2/80	16	59	39.2	12.4	19.0	126.9
32	6/ 2/80	17	5	11.9	13.6	20.2	128.1
32	6/ 2/80	17	14	27.0	17.6	24.2	132.1
32	6/ 2/80	17	21	71.3	25.9	32.5	140.5
32	6/ 2/80	17	25	10.7	26.6	33.2	141.2
32	6/ 2/80	17	30	5.7	27.1	33.7	141.7
32	6/ 2/80	17	37	4.1	27.6	34.2	142.1
32	6/ 2/80	17	43	2.4	27.8	34.4	142.4
32	6/ 2/80	17	47	7.1	28.3	34.9	142.8
32	6/ 2/80	17	54	2.0	28.5	35.1	143.1
32	6/ 2/80	17	58	46.4	31.6	38.2	146.2
32	6/ 2/80	18	2	14.3	32.6	39.2	147.1
32	6/ 2/80	18	10	1.8	32.8	39.4	147.4
32	6/ 2/80	18	20	4.3	33.5	40.1	148.1
32	6/ 4/80			NO DATA	0.0	0.0	148.1
32	6/ 4/80			NO DATA	3.8	3.8	151.9
32	6/ 6/80			NO DATA	0.0	0.0	151.9
32	6/ 6/80			NO DATA	3.3	3.3	155.2
32	6/ 7/80	4	45	0.0	0.0	0.0	155.2
32	6/ 7/80	4	49	19.1	1.3	1.3	156.5
32	6/ 7/80	4	52	40.6	3.3	3.3	158.5
32	6/ 7/80	4	57	15.2	4.6	4.6	159.8
32	6/ 7/80	4	59	38.1	5.8	5.8	161.0
32	6/ 7/80	5	3	7.6	6.3	6.3	161.5
32	6/12/80			NO DATA	0.0	0.0	161.5
32	6/12/80			NO DATA	2.5	2.5	164.1
32	6/13/80			NO DATA	0.0	0.0	164.1
32	6/13/80			NO DATA	1.8	1.8	165.9
32	6/13/80			NO DATA	0.0	1.8	165.9
32	6/13/80			NO DATA	17.0	18.8	182.9
32	6/14/80			NO DATA	0.0	0.0	182.9
32	6/14/80			NO DATA	5.3	5.3	188.2
32	6/15/80			NO DATA	0.0	0.0	188.2
32	6/15/80			NO DATA	10.2	10.2	198.4
32	6/18/80	20	0	0.0	0.0	0.0	198.4
32	6/18/80	20	2	42.2	1.4	1.4	199.8
32	6/18/80	20	5	51.6	4.0	4.0	202.4
32	6/18/80	20	23	3.1	4.9	4.9	203.3
32	6/18/80	21	43	0.4	5.4	5.4	203.8
32	6/18/80	22	20	1.1	6.1	6.1	204.5
32	7/ 9/80			NO DATA	0.0	0.0	204.5
32	7/ 9/80			NO DATA	3.8	3.8	208.3
32	7/16/80	0	13	0.0	0.0	0.0	208.3
32	7/16/80	0	18	27.2	2.3	2.3	210.5
32	7/16/80	0	20	15.1	2.8	2.8	211.0
32	7/16/80	0	25	66.5	8.3	8.3	216.6
32	7/16/80	0	29	64.2	12.6	12.6	220.9
32	7/16/80	0	31	15.1	13.1	13.1	221.4
32	7/16/80	0	35	41.5	15.9	15.9	224.1
32	7/16/80	0	37	15.1	16.4	16.4	224.6
32	7/16/80	0	56	0.8	16.6	16.6	224.9
32	7/16/80	1	4	1.5	16.5	16.9	225.1
32	7/16/80	1	7	35.3	18.6	18.6	226.9
32	7/16/80	1	11	7.6	19.1	19.1	227.4
32	7/16/80	1	14	25.2	20.4	20.4	228.7
32	7/16/80	1	17	15.1	21.2	21.2	229.4
32	7/16/80	1	22	60.4	26.2	26.2	234.5

TABLE B1- 8. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
32	7/16/80	1	25	35.3	27.9	27.9	236.2
32	7/16/80	1	38	2.3	28.5	28.5	236.7
32	7/16/80	1	44	5.0	29.0	29.0	237.2
32	7/18/80	4	17	0.0	0.0	0.0	237.2
32	7/18/80	4	22	31.5	2.6	2.6	239.9
32	7/18/80	4	31	1.9	2.9	2.9	240.1
32	7/18/80	4	34	29.2	4.4	4.4	241.6
32	7/18/80	4	44	5.2	5.2	5.2	242.5
32	7/18/80	4	46	17.5	5.8	5.8	243.1
32	7/18/80	4	52	5.8	6.4	6.4	243.6
32	7/18/80	4	54	26.2	7.3	7.3	244.5
32	7/18/80	5	4	3.5	7.9	7.9	245.1
32	7/25/80			NO DATA	0.0	0.0	245.1
32	7/25/80			NO DATA	3.8	3.8	248.9
32	8/ 4/80			NO DATA	0.0	0.0	248.9
32	8/ 4/80			NO DATA	2.0	2.0	250.9
32	8/ 6/80	0	40	0.0	0.0	0.0	250.9
32	8/ 6/80	0	46	5.1	0.5	0.5	251.5
32	8/ 6/80	0	48	38.5	1.8	1.8	252.7
32	8/ 6/80	0	52	11.6	2.6	2.6	253.5
32	8/ 6/80	0	56	57.8	6.4	6.4	257.4
32	8/ 6/80	1	2	56.5	12.1	12.1	263.0
32	8/ 6/80	1	17	5.1	13.4	13.4	264.3
32	8/ 6/80	1	34	9.1	15.9	15.9	266.9
32	8/ 6/80	1	43	61.6	25.2	25.2	276.1
32	8/ 6/80	1	51	79.0	35.7	35.7	286.6
32	8/ 6/80	1	53	123.3	39.8	39.8	290.7
32	8/ 6/80	1	56	35.9	41.6	41.6	292.5
32	8/ 6/80	2	4	17.3	43.9	43.9	294.9
32	8/ 6/80	2	12	5.8	44.7	44.7	295.6
32	8/ 6/80	2	20	13.5	46.5	46.5	297.4
32	8/ 6/80	2	23	10.3	47.0	47.0	297.9
32	8/ 8/80			NO DATA	0.0	0.0	297.9
32	8/ 8/80			NO DATA	1.3	1.3	299.2
32	8/ 9/80	2	52	0.0	0.0	0.0	299.2
32	8/ 9/80	3	6	3.2	0.7	0.7	300.0
32	8/ 9/80	3	11	3.0	1.0	1.0	300.2
32	8/ 9/80	3	32	1.4	1.5	1.5	300.7
32	8/ 9/80	4	0	3.2	3.0	3.0	302.2
32	8/ 9/80	4	34	0.9	3.5	3.5	302.7
32	8/ 9/80	4	54	0.7	3.7	3.7	302.9
32	8/ 9/80	5	6	2.5	4.2	4.2	303.4
32	8/ 9/80	5	28	5.4	6.2	6.2	305.4
32	8/ 9/80	5	54	5.2	8.5	8.5	307.7
32	8/ 9/80	6	32	6.7	12.7	12.7	311.9
32	8/ 9/80	6	51	3.2	13.7	13.7	312.9
32	8/ 9/80	7	24	1.4	14.5	14.5	313.7
32	8/10/80	1	35	0.0	0.0	0.0	313.7
32	8/10/80	1	40	6.0	0.5	0.5	314.2
32	8/10/80	1	47	6.4	1.2	1.2	314.9
32	8/10/80	2	13	1.2	1.7	1.7	315.4
32	8/10/80	2	27	1.1	2.0	2.0	315.7
32	8/10/80	2	33	5.0	2.5	2.5	316.2
32	8/10/80	4	6	0.2	2.7	2.7	316.4
32	8/10/80	4	10	18.7	4.0	4.0	317.7
32	8/10/80	4	45	0.5	4.5	4.5	318.2
32	8/10/80	4	51	12.5	5.7	5.7	319.4
32	8/10/80	4	55	15.0	6.7	6.7	320.4
32	8/10/80	5	5	4.5	7.5	7.5	321.2
32	8/10/80	5	17	1.2	7.7	7.7	321.4
32	8/10/80	5	22	15.0	9.0	9.0	322.7
32	8/10/80	5	25	10.0	9.5	9.5	323.2
32	8/10/80	5	50	0.6	9.7	9.7	323.4
32	8/10/80	6	32	1.1	10.5	10.5	324.2
32	8/10/80	6	42	4.5	11.2	11.2	324.9
32	8/10/80	7	13	0.5	11.5	11.5	325.2
32	8/10/80	7	23	13.5	13.7	13.7	327.4
32	8/10/80	7	28	3.0	14.0	14.0	327.6
32	8/11/80	2	58	0.0	0.0	0.0	327.6
32	8/11/80	3	2	7.3	0.5	0.5	328.1
32	8/11/80	3	7	5.5	1.0	1.0	328.6
32	8/11/80	3	13	9.8	2.0	2.0	329.6
32	8/11/80	3	17	3.7	2.2	2.2	329.8
32	8/11/80	3	20	43.9	4.4	4.4	332.0
32	8/11/80	3	30	4.4	5.1	5.1	332.8
32	8/11/80	4	0	2.9	6.6	6.6	334.2
32	8/11/80	4	10	2.9	7.1	7.1	334.7
32	8/11/80	4	16	12.2	8.3	8.3	335.9
32	8/11/80	4	19	48.8	10.7	10.7	338.4
32	8/11/80	4	21	109.9	14.4	14.4	342.0
32	8/11/80	4	24	48.8	16.8	16.8	344.5
32	8/11/80	4	29	14.6	18.1	18.1	345.7
32	8/11/80	4	35	4.9	18.6	18.6	346.2
32	8/11/80	4	45	5.9	19.5	19.5	347.2
32	8/11/80	4	56	5.3	20.5	20.5	348.2
32	8/11/80	5	12	3.7	21.5	21.5	349.1
32	8/11/80	5	30	4.9	22.9	22.9	350.6
32	8/11/80	5	40	2.9	23.4	23.4	351.1
32	8/11/80	5	59	2.3	24.2	24.2	351.8
32	8/11/80	6	15	1.8	24.7	24.7	352.3
32	8/11/80	6	45	1.0	25.1	25.1	352.8
32	8/16/80	3	30	0.0	0.0	0.0	352.8
32	8/16/80	4	18	1.2	1.0	1.0	353.8
32	8/16/80	4	34	2.8	1.7	1.7	354.5
32	8/16/80	4	50	3.7	2.7	2.7	355.5

TABLE B1- 8. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
32	8/16/80	5	7	7.0	4.7	4.7	357.5
32	8/16/80	5	40	4.1	7.0	7.0	359.8
32	8/16/80	6	10	1.0	7.5	7.5	360.3
32	8/16/80	6	34	3.1	8.7	8.7	361.5
32	8/16/80	7	0	5.8	11.2	11.2	364.0
32	8/16/80	7	20	0.7	11.5	11.5	364.3
32	8/16/80	7	30	3.0	12.0	12.0	364.8
32	8/16/80	8	0	4.5	14.2	14.2	367.0
32	8/16/80	8	10	3.0	14.7	14.7	367.5
32	8/16/80	8	28	2.5	15.5	15.5	368.2
32	8/16/80	8	50	4.1	16.9	16.9	369.7
32	8/16/80	9	19	2.1	17.9	17.9	370.7
32	8/16/80	9	30	5.4	18.9	18.9	371.7
32	8/16/80	9	48	5.0	20.4	20.4	373.2
32	8/16/80	10	0	12.5	22.9	22.9	375.7
32	8/16/80	10	15	3.0	23.7	23.7	376.5
32	8/16/80	10	26	35.3	30.2	30.2	382.9
32	8/16/80	10	41	4.0	31.2	31.2	383.9
32	8/16/80	10	53	17.4	34.6	34.6	387.4
32	8/16/80	11	10	2.6	35.4	35.4	388.2
32	8/16/80	11	20	4.5	36.1	36.1	388.9
32	8/16/80	12	2	2.1	37.6	37.6	390.4
32	8/16/80	12	39	0.8	38.1	38.1	390.9
32	8/16/80	12	44	12.0	39.1	39.1	391.9
32	8/16/80	13	10	1.7	39.9	39.9	392.7
32	8/17/80			NO DATA	0.0	0.0	392.7
32	8/17/80			NO DATA	1.5	1.5	394.2
32	8/19/80	2	38	0.0	0.0	0.0	394.2
32	8/19/80	2	46	51.4	6.9	6.9	401.0
32	8/19/80	2	58	1.3	7.1	7.1	401.3
32	8/28/80			NO DATA	0.0	0.0	401.3
32	8/28/80			NO DATA	1.3	1.3	402.6
32	8/30/80			NO DATA	0.0	0.0	402.6
32	8/30/80			NO DATA	2.0	2.0	404.6
32	8/31/80			NO DATA	0.0	0.0	404.6
32	8/31/80			NO DATA	2.5	2.5	407.1
32	9/ 4/80	0	22	0.0	0.0	0.0	407.1
32	9/ 4/80	0	29	53.2	6.2	6.2	413.3
32	9/ 4/80	0	34	26.8	8.4	8.4	415.6
32	9/ 4/80	0	38	40.9	11.2	11.2	418.3
32	9/ 4/80	0	46	18.6	13.6	13.6	420.8
32	9/ 4/80	0	55	8.3	14.9	14.9	422.0
32	9/ 4/80	1	5	6.0	15.9	15.9	423.0
32	9/ 4/80	1	30	3.6	17.4	17.4	424.5
32	9/ 4/80	1	44	2.1	17.9	17.9	425.0
32	9/ 4/80	2	45	0.7	18.6	18.6	425.7
32	9/ 4/80	2	56	1.4	18.9	18.9	426.0
32	9/ 4/80	3	3	23.4	21.6	21.6	428.7
32	9/ 4/80	3	10	6.4	22.3	22.3	429.5
32	9/ 4/80	3	16	9.9	23.3	23.3	430.5
32	9/ 4/80	3	24	22.3	26.3	26.3	433.4
32	9/ 4/80	3	30	37.2	30.0	30.0	437.2
32	9/ 4/80	3	38	11.2	31.5	31.5	438.6
32	9/ 4/80	3	50	1.2	31.7	31.7	438.9
32	9/ 6/80			NO DATA	0.0	0.0	438.9
32	9/ 6/80			NO DATA	3.8	3.8	442.7
32	9/ 9/80			NO DATA	0.0	0.0	442.7
32	9/ 9/80			NO DATA	4.6	4.6	447.3
32	9/12/80	2	47	0.0	0.0	0.0	447.3
32	9/12/80	2	50	91.4	4.6	4.6	451.8
32	9/12/80	3	32	0.7	5.1	5.1	452.3
32	9/12/80	3	35	50.8	7.6	7.6	454.9
32	9/12/80	3	38	10.2	8.1	8.1	455.4
32	9/12/80	3	40	30.5	9.1	9.1	456.4
32	9/12/80	3	49	25.4	13.0	13.0	460.2
32	9/12/80	4	0	1.4	13.2	13.2	460.5
32	9/12/80	18	15	0.0	0.0	13.2	460.5
32	9/12/80	18	21	15.2	1.5	14.7	462.0
32	9/12/80	18	31	3.0	2.0	15.2	462.5
32	9/13/80			NO DATA	0.0	0.0	462.5
32	9/13/80			NO DATA	1.8	1.8	464.3
32	9/20/80	3	26	0.0	0.0	0.0	464.3
32	9/20/80	3	30	20.1	1.3	1.3	465.6
32	9/20/80	3	33	32.1	2.9	2.9	467.2
32	9/20/80	3	47	4.6	4.0	4.0	468.3
32	9/20/80	4	0	6.2	5.3	5.3	469.6
32	9/20/80	4	5	6.4	5.9	5.9	470.2
32	9/20/80	4	10	25.7	8.0	8.0	472.3
32	9/20/80	4	13	26.7	9.4	9.4	473.6
32	9/20/80	4	20	6.9	10.2	10.2	474.4
32	9/21/80			NO DATA	0.0	0.0	474.4
32	9/21/80			NO DATA	2.5	2.5	477.0
32	10/16/80	4	6	0.0	0.0	0.0	477.0
32	10/16/80	4	26	0.9	0.3	0.3	477.3
32	10/16/80	4	36	5.6	1.3	1.3	478.2
32	10/16/80	5	56	0.2	1.6	1.6	478.6
32	10/16/80	10	41	0.2	2.5	2.5	479.5
32	10/16/80	10	45	42.3	5.3	5.3	482.3
32	10/16/80	10	51	16.8	7.2	7.2	484.2
32	10/16/80	11	4	5.8	8.5	8.5	485.4

TABLE B1- 8. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
32	10/16/80	12	1	1.0	9.4	9.4	486.4
32	10/16/80	21	37	0.0	0.0	9.4	486.4
32	10/16/80	21	48	10.5	1.9	11.3	488.3
32	10/16/80	22	3	3.3	2.8	12.1	489.1
32	10/16/80	22	11	4.1	3.3	12.7	489.7
32	10/23/80	18	55	0.0	0.0	0.0	489.7
32	10/23/80	19	0	6.2	0.5	0.5	490.2
32	10/23/80	19	13	1.2	0.8	0.8	490.5
32	10/23/80	19	35	5.0	2.6	2.6	492.3
32	10/23/80	20	10	0.0	2.6	2.6	492.3
32	10/23/80	20	15	9.3	3.4	3.4	493.1
32	10/23/80	20	24	3.5	3.9	3.9	493.6
32	10/23/80	20	33	6.9	4.9	4.9	494.6
32	10/23/80	20	41	1.9	5.2	5.2	494.9
32	10/23/80	20	50	3.5	5.7	5.7	495.4
32	10/23/80	21	17	1.7	6.5	6.5	496.2
32	10/23/80	21	34	5.5	8.0	8.0	497.7
32	10/23/80	21	45	1.4	8.3	8.3	498.0
32	10/23/80	22	5	3.9	9.6	9.6	499.3
32	10/23/80	22	20	3.1	10.4	10.4	500.1
32	10/23/80	23	10	2.2	12.2	12.2	501.9
32	10/23/80	24	0	1.6	13.5	13.5	503.2
32	10/24/80	0	40	1.9	14.8	1.3	504.5
32	10/24/80	1	0	2.3	15.6	2.1	505.2
32	10/24/80	1	20	3.9	16.9	3.4	506.5
32	10/24/80	1	30	4.7	17.6	4.1	507.3
32	10/24/80	1	50	1.6	18.2	4.7	507.8
32	10/24/80	2	23	3.8	20.2	6.7	509.9
32	10/24/80	2	55	2.4	21.5	8.0	511.2
32	10/24/80	3	10	2.1	22.0	8.6	511.7
32	10/24/80	3	30	3.9	23.3	9.9	513.0
32	10/24/80	3	56	1.8	24.1	10.6	513.8
32	10/24/80	4	50	0.6	24.6	11.2	514.3
32	10/27/80			NO DATA	0.0	0.0	514.3
32	10/27/80			NO DATA	1.3	1.3	515.6

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM

TABLE B1- 9. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1980 GAGE 33

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
33	1/ 4/80			SNOW	0.0	0.0	0.0
33	1/ 4/80			SNOW	1.0	1.0	1.0
33	1/ 6/80			SNOW	0.0	0.0	1.0
33	1/ 6/80			SNOW	10.2	10.2	11.2
33	1/ 8/80			SNOW	0.0	0.0	11.2
33	1/ 8/80			SNOW	2.8	2.8	14.0
33	1/16/80			NO DATA	0.0	0.0	14.0
33	1/16/80			NO DATA	29.5	29.5	43.4
33	1/30/80			SNOW	0.0	0.0	43.4
33	1/30/80			SNOW	1.5	1.5	45.0
33	2/ 5/80			SNOW	0.0	0.0	45.0
33	2/ 5/80			SNOW	4.1	4.1	49.0
33	2/21/80			NO DATA	0.0	0.0	49.0
33	2/21/80			NO DATA	5.8	5.8	54.9
33	2/25/80			SNOW	0.0	0.0	54.9
33	2/25/80			SNOW	8.1	8.1	63.0
33	3/ 4/80			NO DATA	0.0	0.0	63.0
33	3/ 4/80			NO DATA	15.7	15.7	78.7
33	3/13/80			NO DATA	0.0	0.0	78.7
33	3/13/80			NO DATA	4.1	4.1	82.8
33	3/31/80			NO DATA	0.0	0.0	82.8
33	3/31/80			NO DATA	12.4	12.4	95.2
33	4/ 3/80	2	0	0.0	0.0	0.0	95.2
33	4/ 3/80	2	20	1.4	0.5	0.5	95.7
33	4/ 3/80	3	0	2.1	1.8	1.8	97.1
33	4/ 3/80	3	30	3.2	3.4	3.4	98.7
33	4/ 3/80	3	40	2.8	3.9	3.9	99.1
33	4/ 3/80	3	49	1.5	4.1	4.1	99.4
33	4/ 3/80	3	54	11.0	5.0	5.0	100.3
33	4/ 3/80	4	3	7.6	6.2	6.2	101.4
33	4/ 3/80	4	45	0.3	6.4	6.4	101.7
33	4/ 3/80	4	48	18.4	7.3	7.3	102.6
33	4/ 3/80	5	20	0.4	7.6	7.6	102.8
33	4/ 3/80	5	40	2.8	8.5	8.5	103.7
33	4/ 3/80	8	0	0.0	8.5	8.5	103.7
33	4/ 3/80	11	55	0.2	9.2	9.2	104.4
33	4/ 3/80	12	5	8.3	10.6	10.6	105.8
33	4/ 3/80	12	20	0.9	10.8	10.8	106.0
33	4/ 3/80	12	30	2.8	11.2	11.2	106.5
33	4/ 3/80	13	0	1.4	11.9	11.9	107.2
33	4/ 3/80	13	10	2.8	12.4	12.4	107.6
33	4/ 3/80	13	30	2.1	13.1	13.1	108.3
33	4/ 3/80	15	20	0.6	14.2	14.2	109.5
33	4/ 6/80			NO DATA	0.0	0.0	109.5
33	4/ 6/80			NO DATA	2.5	2.5	112.0
33	4/ 8/80			NO DATA	0.0	0.0	112.0
33	4/ 8/80			NO DATA	2.5	2.5	114.6
33	4/14/80			NO DATA	0.0	0.0	114.6
33	4/14/80			NO DATA	1.3	1.3	115.8
33	5/10/80			NO DATA	0.0	0.0	115.8
33	5/10/80			NO DATA	3.8	3.8	119.6
33	5/12/80			NO DATA	0.0	0.0	119.6
33	5/12/80			NO DATA	1.3	1.3	120.9
33	5/14/80			NO DATA	0.0	0.0	120.9
33	5/14/80			NO DATA	1.0	1.0	121.9
33	5/16/80			NO DATA	0.0	0.0	121.9
33	5/16/80			NO DATA	1.3	1.3	123.2
33	5/17/80	8	0	0.0	0.0	0.0	123.2
33	5/17/80	8	40	0.5	0.6	0.6	123.8
33	5/17/80	10	20	0.2	1.0	1.0	124.2
33	5/17/80	14	40	0.0	1.2	1.2	124.4
33	5/17/80	20	0	0.0	1.2	1.2	124.4
33	5/17/80	20	7	5.2	1.8	1.8	125.0
33	5/17/80	20	12	12.0	2.8	2.8	126.0
33	5/17/80	20	24	5.0	3.8	3.8	127.0
33	5/17/80	20	50	0.5	4.2	4.2	127.4
33	5/17/80	21	0	6.0	5.2	5.2	128.4
33	5/17/80	21	11	3.3	5.8	5.8	129.0
33	5/17/80	21	20	2.7	6.2	6.2	129.4
33	5/17/80	21	55	1.0	6.8	6.8	130.0
33	5/17/80	24	0	0.1	7.0	7.0	130.2
33	5/18/80	1	0	0.2	7.2	0.2	130.4
33	5/18/80	5	0	0.1	7.6	0.6	130.8
33	5/18/80	8	40	0.1	7.8	0.8	131.0
33	5/18/80	11	40	0.2	8.4	1.4	131.6
33	5/18/80	13	0	0.2	8.6	1.6	131.8
33	5/18/80	13	28	3.4	10.2	3.2	133.4
33	5/18/80	14	20	0.7	10.8	3.8	134.0
33	5/18/80	14	49	0.8	11.2	4.2	134.4
33	5/18/80	15	30	0.3	11.4	4.4	134.6
33	5/27/80	17	20	0.0	0.0	0.0	134.6
33	5/27/80	17	30	13.8	2.3	2.3	136.9
33	5/27/80	18	11	0.4	2.6	2.6	137.2
33	5/27/80	18	23	4.2	3.4	3.4	138.1

TABLE B1- 9. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	5/27/80	18	50	3.6	3.7	3.7	138.3
33	5/27/80	18	59	7.6	4.9	4.9	139.5
33	5/27/80	19	9	1.7	5.2	5.2	139.8
33	5/27/80	19	11	34.4	6.3	6.3	140.9
33	5/27/80	19	21	1.7	6.6	6.6	141.2
33	5/27/80	19	24	34.4	8.3	8.3	142.9
33	5/27/80	19	43	1.8	8.9	8.9	143.5
33	5/28/80	19	40	0.0	0.0	0.0	143.5
33	5/28/80	20	20	1.7	1.1	1.1	144.6
33	5/28/80	24	0	0.1	1.4	1.4	144.9
33	5/29/80	2	11	0.1	1.7	0.3	145.2
33	5/29/80	2	15	47.0	4.8	3.4	148.3
33	5/29/80	2	18	22.8	6.0	4.6	149.5
33	5/29/80	2	25	7.3	6.8	5.4	150.3
33	5/29/80	5	27	0.0	6.8	5.4	150.3
33	5/29/80	5	30	11.4	7.4	6.0	150.9
33	5/29/80	7	15	0.5	8.3	6.8	151.8
33	5/29/80	7	20	23.9	10.2	8.8	153.8
33	5/29/80	7	23	74.0	14.0	12.5	157.5
33	5/29/80	7	33	59.8	23.9	22.5	167.4
33	5/29/80	7	41	4.3	24.5	23.1	168.0
33	5/29/80	7	50	34.2	29.6	28.2	173.1
33	5/29/80	7	58	4.3	30.2	28.8	173.7
33	5/29/80	8	23	0.7	30.5	29.0	174.0
33	5/29/80	8	25	17.1	31.0	29.6	174.5
33	5/29/80	8	28	56.9	33.9	32.5	177.4
33	5/29/80	8	30	256.2	42.4	41.0	185.9
33	5/29/80	8	32	85.4	45.3	43.8	188.8
33	5/29/80	8	35	113.9	51.0	49.5	194.5
33	5/29/80	8	38	17.1	51.8	50.4	195.3
33	5/30/80	0	26	0.0	0.0	0.0	195.3
33	5/30/80	0	28	28.2	0.9	0.9	196.3
33	5/30/80	0	37	1.6	1.2	1.2	196.5
33	5/30/80	0	40	14.1	1.9	1.9	197.2
33	5/30/80	1	16	0.4	2.1	2.1	197.4
33	5/30/80	1	21	14.1	3.3	3.3	198.6
33	5/30/80	1	24	37.7	5.2	5.2	200.5
33	5/30/80	1	35	9.0	6.8	6.8	202.1
33	5/30/80	2	0	2.3	7.8	7.8	203.1
33	5/30/80	2	6	2.4	8.0	8.0	203.3
33	5/30/80	2	33	2.1	8.9	8.9	204.3
33	5/30/80	3	30	0.7	9.7	9.7	205.0
33	6/ 1/80			NO DATA	0.0	0.0	205.0
33	6/ 1/80			NO DATA	3.8	3.8	208.8
33	6/ 2/80	8	7	0.0	0.0	0.0	208.8
33	6/ 2/80	8	22	1.9	0.5	0.5	209.3
33	6/ 2/80	8	40	3.9	1.7	1.7	210.4
33	6/ 2/80	8	50	2.8	2.1	2.1	210.9
33	6/ 2/80	9	10	2.8	3.1	3.1	211.9
33	6/ 2/80	9	33	9.9	6.4	6.4	215.2
33	6/ 2/80	9	40	2.8	6.9	6.9	215.6
33	6/ 2/80	16	34	0.0	0.0	6.9	215.6
33	6/ 2/80	16	49	2.0	0.5	7.4	216.1
33	6/ 2/80	16	53	51.7	3.9	10.8	219.6
33	6/ 2/80	17	0	84.4	13.8	20.6	229.4
33	6/ 2/80	17	3	24.6	15.0	21.9	230.7
33	6/ 2/80	17	7	18.5	16.3	23.1	231.9
33	6/ 2/80	17	13	41.9	20.4	27.3	236.1
33	6/ 2/80	17	20	31.7	24.1	31.0	239.8
33	6/ 2/80	17	21	118.2	26.1	33.0	241.7
33	6/ 2/80	17	26	14.8	27.3	34.2	243.0
33	6/ 2/80	17	33	6.3	28.1	34.9	243.7
33	6/ 2/80	17	44	2.7	28.6	35.4	244.2
33	6/ 2/80	17	54	3.0	29.1	35.9	244.7
33	6/ 2/80	18	0	19.7	31.0	37.9	246.7
33	6/ 2/80	18	26	2.8	32.3	39.1	247.9
33	6/ 4/80			NO DATA	0.0	0.0	247.9
33	6/ 4/80			NO DATA	3.8	3.8	251.7
33	6/ 6/80	18	37	0.0	0.0	0.0	251.7
33	6/ 6/80	18	41	58.1	3.9	3.9	255.6
33	6/ 6/80	18	49	27.2	7.5	7.5	259.2
33	6/ 6/80	18	52	43.6	9.7	9.7	261.4
33	6/ 6/80	18	59	4.1	10.2	10.2	261.9
33	6/ 7/80	4	44	0.0	0.0	0.0	261.9
33	6/ 7/80	4	47	10.6	0.5	0.5	262.4
33	6/ 7/80	4	51	11.9	1.3	1.3	263.2
33	6/ 7/80	4	57	37.0	5.0	5.0	266.9
33	6/ 7/80	5	4	5.1	6.1	6.1	268.0
33	6/ 7/80	5	8	4.0	6.3	6.3	268.2
33	6/12/80			NO DATA	0.0	0.0	268.2
33	6/12/80			NO DATA	0.8	0.8	269.0
33	6/13/80			NO DATA	0.0	0.0	269.0
33	6/13/80			NO DATA	1.0	1.0	270.0
33	6/13/80	21	18	0.0	0.0	1.0	270.0
33	6/13/80	21	22	49.9	3.3	4.3	273.3
33	6/13/80	21	29	44.4	7.8	8.8	277.8
33	6/13/80	21	33	24.0	9.8	10.8	279.8
33	6/13/80	21	39	31.1	12.9	13.9	282.9
33	6/13/80	21	45	20.0	14.9	15.9	284.9
33	6/13/80	22	4	5.6	16.6	17.7	286.6
33	6/13/80	22	9	8.0	17.3	18.3	287.3
33	6/13/80	22	32	2.3	18.2	19.2	288.2
33	6/13/80	23	42	0.6	18.9	19.9	288.9

TABLE B1- 9. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	6/13/80	24	0	0.7	19.1	20.1	289.1
33	6/14/80	0	25	1.1	19.5	0.4	289.5
33	6/14/80	1	2	0.7	20.0	0.9	290.0
33	6/14/80	1	22	4.0	21.3	2.2	291.3
33	6/14/80	1	52	0.9	21.8	2.7	291.7
33	6/14/80	3	22	0.3	22.2	3.1	292.2
33	6/14/80	3	33	1.2	22.4	3.3	292.4
33	6/14/80	3	37	6.7	22.9	3.8	292.9
33	6/15/80	0	23	0.0	0.0	0.0	292.9
33	6/15/80	0	33	4.4	0.7	0.7	293.6
33	6/15/80	2	24	0.1	1.0	1.0	293.8
33	6/15/80	2	42	3.3	2.0	2.0	294.8
33	6/15/80	3	5	1.9	2.7	2.7	295.6
33	6/15/80	3	15	5.9	3.7	3.7	296.5
33	6/15/80	3	19	73.9	8.6	8.6	301.5
33	6/15/80	3	24	29.5	11.1	11.1	303.9
33	6/15/80	3	37	5.7	12.3	12.3	305.2
33	6/15/80	3	52	6.9	14.0	14.0	306.9
33	6/15/80	4	7	4.9	15.3	15.3	308.1
33	6/15/80	5	2	0.8	16.0	16.0	308.9
33	6/18/80	19	59	0.0	0.0	0.0	308.9
33	6/18/80	20	1	94.5	3.2	3.2	312.0
33	6/18/80	20	6	5.8	3.6	3.6	312.5
33	6/18/80	21	38	0.3	4.1	4.1	313.0
33	6/18/80	21	54	3.6	5.1	5.1	313.9
33	6/18/80	22	1	2.1	5.3	5.3	314.2
33	7/ 9/80			NO DATA	0.0	0.0	314.2
33	7/ 9/80			NO DATA	3.0	3.0	317.2
33	7/16/80	0	20	0.0	0.0	0.0	317.2
33	7/16/80	0	21	135.8	1.8	1.8	319.0
33	7/16/80	0	26	21.2	3.5	3.5	320.8
33	7/16/80	0	27	166.2	6.3	6.3	323.5
33	7/16/80	0	30	100.7	11.3	11.3	328.6
33	7/16/80	0	32	75.5	13.8	13.8	331.1
33	7/16/80	0	35	25.2	15.1	15.1	332.3
33	7/16/80	0	38	60.4	18.1	18.1	335.4
33	7/16/80	1	7	1.6	18.9	18.9	336.1
33	7/16/80	1	10	25.2	20.1	20.1	337.4
33	7/16/80	1	14	7.6	20.6	20.6	337.9
33	7/16/80	1	16	37.8	21.9	21.9	339.1
33	7/16/80	1	19	10.1	22.4	22.4	339.6
33	7/16/80	1	22	25.2	23.7	23.7	340.9
33	7/16/80	1	24	68.0	25.9	25.9	343.2
33	7/16/80	1	27	35.3	27.7	27.7	344.9
33	7/16/80	1	30	10.1	28.2	28.2	345.4
33	7/16/80	1	32	22.7	29.0	29.0	346.2
33	7/16/80	1	42	1.5	29.2	29.2	346.4
33	7/18/80	3	52	0.0	0.0	0.0	346.4
33	7/18/80	4	12	1.3	0.6	0.6	347.0
33	7/18/80	4	22	8.6	1.1	1.1	347.6
33	7/18/80	4	26	8.6	1.7	1.7	348.2
33	7/18/80	4	30	12.9	2.6	2.6	349.0
33	7/18/80	4	33	17.2	3.4	3.4	349.9
33	7/18/80	4	44	1.6	3.7	3.7	350.2
33	7/18/80	4	50	11.5	4.9	4.9	351.3
33	7/18/80	4	53	26.7	6.3	6.3	352.8
33	7/18/80	5	10	1.0	6.6	6.6	353.0
33	7/25/80			NO DATA	0.0	0.0	353.0
33	7/25/80			NO DATA	2.5	2.5	355.6
33	7/26/80			NO DATA	0.0	0.0	355.6
33	7/26/80			NO DATA	3.3	3.3	358.9
33	E/ 4/80			NO DATA	0.0	0.0	358.9
33	E/ 4/80			NO DATA	2.5	2.5	361.4
33	E/ 6/80	0	54	0.0	0.0	0.0	361.4
33	E/ 6/80	1	1	37.0	4.3	4.3	365.7
33	E/ 6/80	1	6	61.0	9.4	9.4	370.8
33	E/ 6/80	1	11	70.1	15.2	15.2	376.7
33	E/ 6/80	1	15	45.7	18.3	18.3	379.7
33	E/ 6/80	1	19	22.9	19.8	19.8	381.2
33	E/ 6/80	1	24	6.1	20.3	20.3	381.7
33	E/ 6/80	1	27	45.7	22.6	22.6	384.0
33	E/ 6/80	1	33	15.2	24.1	24.1	385.6
33	E/ 6/80	1	41	5.7	24.9	24.9	386.3
33	E/ 6/80	1	46	42.7	28.4	28.4	389.9
33	E/ 6/80	1	48	76.2	31.0	31.0	392.4
33	E/ 6/80	1	51	50.8	33.5	33.5	395.0
33	E/ 6/80	1	53	76.2	36.1	36.1	397.5
33	E/ 6/80	1	55	152.4	41.1	41.1	402.6
33	E/ 6/80	1	57	114.3	45.0	45.0	406.4
33	E/ 6/80	1	59	76.2	47.5	47.5	408.9
33	E/ 6/80	2	6	6.5	48.3	48.3	409.7
33	E/ 6/80	2	9	20.3	49.3	49.3	410.7
33	E/ 6/80	2	11	61.0	51.3	51.3	412.7
33	E/ 6/80	2	17	10.2	52.3	52.3	413.8
33	E/ 6/80	2	21	61.0	56.4	56.4	417.8
33	E/ 6/80	2	24	30.5	57.9	57.9	419.3
33	E/ 6/80	2	34	3.0	58.4	58.4	419.8
33	E/ 8/80			NO DATA	0.0	0.0	419.8
33	E/ 8/80			NO DATA	1.3	1.3	421.1
33	E/ 9/80	2	44	0.0	0.0	0.0	421.1
33	E/ 9/80	3	4	0.8	0.3	0.3	421.4
33	E/ 9/80	3	14	4.6	1.0	1.0	422.1
33	E/ 9/80	3	29	2.0	1.5	1.5	422.6

TABLE B1- 9. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	8/ 9/80	3	44	4.1	2.5	2.5	423.7
33	8/ 9/80	4	11	1.1	3.0	3.0	424.2
33	8/ 9/80	4	34	1.3	3.6	3.6	424.7
33	8/ 9/80	4	49	1.0	3.8	3.8	424.9
33	8/ 9/80	5	5	1.0	4.1	4.1	425.2
33	8/ 9/80	5	32	5.1	6.3	6.3	427.5
33	8/ 9/80	5	41	5.1	7.1	7.1	428.2
33	8/ 9/80	6	4	8.0	10.2	10.2	431.3
33	8/ 9/80	6	19	6.1	11.7	11.7	432.8
33	8/ 9/80	6	34	5.1	13.0	13.0	434.1
33	8/ 9/80	6	48	4.4	14.0	14.0	435.1
33	8/ 9/80	7	4	1.9	14.5	14.5	435.6
33	8/ 9/80	7	22	0.8	14.7	14.7	435.8
33	8/10/80	1	40	0.0	0.0	0.0	435.8
33	8/10/80	1	42	28.5	0.9	0.9	436.8
33	8/10/80	1	52	4.3	1.7	1.7	437.5
33	8/10/80	2	14	0.6	1.9	1.9	437.7
33	8/10/80	2	25	2.6	2.4	2.4	438.2
33	8/10/80	4	11	0.4	3.1	3.1	438.9
33	8/10/80	4	13	42.7	4.5	4.5	440.4
33	8/10/80	4	52	1.5	5.5	5.5	441.3
33	8/10/80	4	54	21.4	6.2	6.2	442.0
33	8/10/80	4	58	17.8	7.4	7.4	443.2
33	8/10/80	5	19	1.4	7.8	7.8	443.7
33	8/10/80	5	22	23.7	9.0	9.0	444.9
33	8/10/80	5	29	8.1	10.0	10.0	445.8
33	8/10/80	5	54	0.6	10.2	10.2	446.0
33	8/10/80	6	14	1.4	10.7	10.7	446.5
33	8/10/80	6	34	0.7	10.9	10.9	446.8
33	8/10/80	7	17	1.0	11.6	11.6	447.5
33	8/10/80	7	18	57.0	12.6	12.6	448.4
33	8/10/80	7	21	23.7	13.8	13.8	449.6
33	8/10/80	7	30	4.7	14.5	14.5	450.3
33	8/11/80	2	59	0.0	0.0	0.0	450.3
33	8/11/80	3	6	6.5	0.8	0.8	451.1
33	8/11/80	3	16	6.1	1.8	1.8	452.1
33	8/11/80	3	26	3.0	2.3	2.3	452.6
33	8/11/80	3	28	22.9	3.0	3.0	453.4
33	8/11/80	3	50	3.5	4.3	4.3	454.6
33	8/11/80	4	12	2.8	5.3	5.3	455.7
33	8/11/80	4	18	7.6	6.1	6.1	456.4
33	8/11/80	4	22	26.7	7.9	7.9	458.2
33	8/11/80	4	24	83.8	10.7	10.7	461.0
33	8/11/80	4	29	67.1	16.3	16.3	466.6
33	8/11/80	4	43	6.5	17.8	17.8	468.1
33	8/11/80	4	50	4.4	18.3	18.3	468.6
33	8/11/80	5	7	3.6	19.3	19.3	469.6
33	8/11/80	5	20	3.5	20.1	20.1	470.4
33	8/11/80	5	42	2.1	20.8	20.8	471.1
33	8/11/80	5	50	1.9	21.1	21.1	471.4
33	8/11/80	6	10	3.6	22.4	22.4	472.7
33	8/16/80	3	54	0.0	0.0	0.0	472.7
33	8/16/80	4	40	1.6	1.2	1.2	473.9
33	8/16/80	4	55	4.0	2.2	2.2	474.9
33	8/16/80	5	14	6.2	4.2	4.2	476.9
33	8/16/80	5	44	4.5	6.5	6.5	479.2
33	8/16/80	6	19	1.3	7.2	7.2	479.9
33	8/16/80	6	39	3.0	8.2	8.2	480.9
33	8/16/80	6	59	6.0	10.2	10.2	482.9
33	8/16/80	7	26	1.7	11.0	11.0	483.7
33	8/16/80	7	49	4.6	12.7	12.7	485.4
33	8/16/80	8	4	5.0	14.0	14.0	486.6
33	8/16/80	8	26	2.0	14.7	14.7	487.4
33	8/16/80	8	41	5.0	16.0	16.0	488.6
33	8/16/80	8	54	3.5	16.7	16.7	489.4
33	8/16/80	9	24	2.0	17.7	17.7	490.4
33	8/16/80	9	34	6.0	18.7	18.7	491.4
33	8/16/80	9	47	9.2	20.7	20.7	493.4
33	8/16/80	9	54	8.6	21.7	21.7	494.4
33	8/16/80	10	4	16.5	24.5	24.5	497.1
33	8/16/80	10	17	3.5	25.2	25.2	497.9
33	8/16/80	10	22	18.0	26.7	26.7	499.4
33	8/16/80	10	28	34.9	30.2	30.2	502.9
33	8/16/80	10	36	5.6	30.9	30.9	503.6
33	8/16/80	10	44	5.6	31.7	31.7	504.4
33	8/16/80	10	48	22.5	33.2	33.2	505.9
33	8/16/80	10	55	15.0	34.9	34.9	507.6
33	8/16/80	11	9	2.1	35.4	35.4	508.1
33	8/16/80	11	19	9.0	36.9	36.9	509.6
33	8/16/80	11	29	4.5	37.7	37.7	510.4
33	8/16/80	11	44	2.0	38.2	38.2	510.9
33	8/16/80	12	8	3.7	39.7	39.7	512.4
33	8/16/80	12	30	1.4	40.2	40.2	512.9
33	8/16/80	12	38	3.7	40.7	40.7	513.4
33	8/16/80	12	40	37.4	41.9	41.9	514.6
33	8/16/80	12	51	1.4	42.2	42.2	514.8
33	8/16/80	13	10	3.2	43.2	43.2	515.8
33	8/17/80			NO DATA	0.0	0.0	515.8
33	8/17/80			NO DATA	1.5	1.5	517.4
33	8/19/80	2	39	0.0	0.0	0.0	517.4
33	8/19/80	2	44	31.6	2.6	2.6	520.0
33	8/19/80	2	49	47.4	6.6	6.6	524.0
33	8/19/80	2	56	4.5	7.1	7.1	524.5
33	8/28/80			NO DATA	0.0	0.0	524.5
33	8/28/80			NO DATA	1.3	1.3	525.8
33	8/30/80			NO DATA	0.0	0.0	525.8
33	8/30/80			NO DATA	1.5	1.5	527.3

TABLE B1- 9. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
33	8/31/80			NO DATA	0.0	0.0	527.3
33	8/31/80			NO DATA	2.0	2.0	529.3
33	9/ 4/80	0	28	0.0	0.0	0.0	529.3
33	9/ 4/80	0	34	31.8	3.2	3.2	532.5
33	9/ 4/80	0	38	55.1	6.9	6.9	536.2
33	9/ 4/80	0	41	9.8	7.3	7.3	536.6
33	9/ 4/80	0	43	44.0	8.8	8.8	538.1
33	9/ 4/80	1	1	7.3	11.0	11.0	540.3
33	9/ 4/80	1	20	5.4	12.7	12.7	542.0
33	9/ 4/80	1	35	2.9	13.5	13.5	542.8
33	9/ 4/80	1	48	2.3	13.9	13.9	543.3
33	9/ 4/80	2	48	0.7	14.7	14.7	544.0
33	9/ 4/80	3	0	3.7	15.4	15.4	544.7
33	9/ 4/80	3	5	26.4	17.6	17.6	546.9
33	9/ 4/80	3	17	4.9	18.6	18.6	547.9
33	9/ 4/80	3	23	34.3	22.0	22.0	551.3
33	9/ 4/80	3	26	14.7	22.8	22.8	552.1
33	9/ 4/80	3	29	58.7	25.7	25.7	555.0
33	9/ 4/80	3	38	3.3	26.2	26.2	555.5
33	9/ 4/80	3	46	3.7	26.7	26.7	556.0
33	9/ 6/80	13	15	0.0	0.0	0.0	556.0
33	9/ 6/80	13	18	26.8	1.3	1.3	557.3
33	9/ 6/80	13	23	48.3	5.4	5.4	561.3
33	9/ 6/80	13	28	22.5	7.2	7.2	563.2
33	9/ 6/80	13	43	9.7	9.7	9.7	565.6
33	9/ 9/80	0	58	0.0	0.0	0.0	565.6
33	9/ 9/80	1	3	12.5	1.0	1.0	566.7
33	9/ 9/80	1	7	66.2	5.5	5.5	571.1
33	9/ 9/80	1	9	101.3	8.8	8.8	574.5
33	9/ 9/80	1	23	0.0	8.8	8.8	574.5
33	9/ 9/80	1	31	15.6	10.9	10.9	576.5
33	9/ 9/80	1	36	6.2	11.4	11.4	577.1
33	9/12/80	2	51	0.0	0.0	0.0	577.1
33	9/12/80	2	55	80.0	5.3	5.3	582.4
33	9/12/80	3	36	0.7	5.8	5.8	582.9
33	9/12/80	3	43	13.1	7.4	7.4	584.4
33	9/12/80	3	46	61.0	10.4	10.4	587.5
33	9/12/80	3	50	30.5	12.4	12.4	589.5
33	9/12/80	3	56	7.6	13.2	13.2	590.3
33	9/12/80	18	16	0.0	0.0	13.2	590.3
33	9/12/80	18	21	14.3	1.2	14.4	591.5
33	9/12/80	18	31	5.7	2.2	15.4	592.4
33	9/12/80	20	59	0.0	2.2	15.4	592.4
33	9/12/80	21	0	85.0	3.6	16.8	593.8
33	9/12/80	21	11	2.6	4.1	17.3	594.3
33	9/13/80			NO DATA	0.0	0.0	594.3

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
33	9/13/80			NO DATA	2.5	2.5	596.9
33	9/20/80	3	31	0.0	0.0	0.0	596.9
33	9/20/80	3	32	129.3	2.2	2.2	599.0
33	9/20/80	3	37	16.2	3.5	3.5	600.4
33	9/20/80	3	52	2.2	4.0	4.0	600.9
33	9/20/80	4	4	8.1	5.7	5.7	602.5
33	9/20/80	4	8	4.0	5.9	5.9	602.8
33	9/20/80	4	13	9.7	6.7	6.7	603.6
33	9/20/80	4	16	26.5	8.1	8.1	604.9
33	9/20/80	4	39	2.1	8.9	8.9	605.8
33	9/21/80	20	48	0.0	0.0	0.0	605.8
33	9/21/80	20	53	47.2	3.9	3.9	609.7
33	9/21/80	20	56	14.8	4.7	4.7	610.4
33	9/21/80	21	1	5.5	5.2	5.2	610.9
33	9/21/80	21	4	24.6	6.4	6.4	612.1
33	9/21/80	21	15	6.7	7.6	7.6	613.4
33	10/16/80	4	35	0.0	0.0	0.0	613.4
33	10/16/80	5	21	0.6	0.5	0.5	613.9
33	10/16/80	9	30	0.3	1.7	1.7	615.1
33	10/16/80	10	42	0.2	2.0	2.0	615.3
33	10/16/80	10	46	33.2	4.2	4.2	617.6
33	10/16/80	10	49	15.7	5.2	5.2	618.5
33	10/16/80	10	59	8.5	6.6	6.6	620.0
33	10/16/80	11	8	3.3	7.1	7.1	620.5
33	10/16/80	12	3	0.8	7.9	7.5	621.2
33	10/16/80	21	43	0.0	0.0	7.9	621.2
33	10/16/80	21	47	3.7	0.2	8.1	621.5
33	10/16/80	21	50	69.5	3.7	11.6	625.0
33	10/16/80	21	53	14.5	4.5	12.3	625.7
33	10/16/80	21	58	6.0	5.0	12.8	626.2
33	10/16/80	22	0	37.2	6.2	14.1	627.5
33	10/16/80	22	18	1.7	6.7	14.6	628.0
33	10/16/80	22	24	42.2	10.5	18.8	632.2
33	10/16/80	22	33	1.7	11.2	19.0	632.4
33	10/23/80	18	0	0.0	0.0	0.0	632.4
33	10/23/80	18	55	0.2	0.2	0.2	632.7
33	10/23/80	19	14	1.5	0.7	0.7	633.2
33	10/23/80	19	20	4.5	1.2	1.2	633.6
33	10/23/80	19	27	2.1	1.5	1.5	633.9
33	10/23/80	19	30	14.6	2.2	2.2	634.6
33	10/23/80	20	14	0.7	2.7	2.7	635.1
33	10/23/80	20	19	8.8	3.4	3.4	635.8
33	10/23/80	20	33	2.1	3.9	3.9	636.3
33	10/23/80	20	41	1.8	4.1	4.1	636.6
33	10/23/80	20	48	4.2	4.6	4.6	637.1
33	10/23/80	21	0	2.4	5.1	5.1	637.5
33	10/23/80	21	18	1.6	5.6	5.6	638.0

TABLE B1- 9. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
33	10/23/80	21	32	5.2	6.8	6.8	639.2
33	10/23/80	21	45	2.2	7.3	7.3	639.7
33	10/23/80	22	0	5.8	8.8	8.8	641.2
33	10/23/80	22	13	2.2	9.3	9.3	641.7
33	10/23/80	22	30	2.6	10.0	10.0	642.4
33	10/23/80	22	50	2.2	10.7	10.7	643.1
33	10/23/80	23	12	2.7	11.7	11.7	644.1
33	10/23/80	23	35	1.3	12.2	12.2	644.6
33	10/23/80	24	0	1.8	12.9	12.9	645.3
33	10/24/80	0	40	1.5	13.9	1.0	646.3
33	10/24/80	1	25	3.2	16.3	3.4	648.8
33	10/24/80	1	50	2.3	17.3	4.4	649.7
33	10/24/80	2	10	3.7	18.5	5.6	650.9
33	10/24/80	2	30	2.9	19.5	6.6	651.9
33	10/24/80	3	0	2.4	20.7	7.8	653.1
33	10/24/80	3	8	5.5	21.4	8.5	653.9
33	10/24/80	3	38	1.9	22.4	9.5	654.8
33	10/24/80	4	2	1.8	23.2	10.2	655.6
33	10/24/80	4	30	1.0	23.6	10.7	656.1
33	10/24/80	5	0	0.5	23.9	11.0	656.3
33	10/24/80	5	20	0.7	24.1	11.2	656.5
33	10/27/80			NO DATA	0.0	0.0	656.6
33	10/27/80			NO DATA	1.3	1.3	657.8

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM

TABLE B1-10. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1980 GAGE 34

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
34	4/ 3/80	1	58	0.0	0.0	0.0	0.0
34	4/ 3/80	2	40	1.9	1.4	1.4	1.4
34	4/ 3/80	3	15	2.8	3.0	3.0	3.0
34	4/ 3/80	3	25	1.6	3.2	3.2	3.2
34	4/ 3/80	3	40	1.1	3.5	3.5	3.5
34	4/ 3/80	3	45	3.2	3.8	3.8	3.8
34	4/ 3/80	3	50	3.2	4.1	4.1	4.1
34	4/ 3/80	4	0	6.5	5.1	5.1	5.1
34	4/ 3/80	4	10	3.2	5.7	5.7	5.7
34	4/ 3/80	4	50	0.4	5.9	5.9	5.9
34	4/ 3/80	5	23	0.5	6.2	6.2	6.2
34	4/ 3/80	5	30	4.6	6.8	6.8	6.8
34	4/ 3/80	6	10	0.8	7.3	7.3	7.3
34	4/ 3/80	11	0	0.0	7.3	7.3	7.3
34	4/ 3/80	11	44	0.7	7.8	7.8	7.8
34	4/ 3/80	11	50	5.4	8.4	8.4	8.4
34	4/ 3/80	12	18	1.2	8.9	8.9	8.9
34	4/ 3/80	12	27	3.6	9.5	9.5	9.5
34	4/ 3/80	13	10	1.5	10.5	10.5	10.5
34	4/ 3/80	13	40	1.6	11.3	11.3	11.3
34	4/ 3/80	14	10	0.5	11.6	11.6	11.6
34	4/ 3/80	15	0	0.6	12.2	12.2	12.2
34	4/ 3/80	16	6	0.5	12.7	12.7	12.7
34	4/ 6/80			NO DATA	0.0	0.0	12.7
34	4/ 6/80			NO DATA	2.5	2.5	15.2
34	4/ 8/80			NO DATA	0.0	0.0	15.2
34	4/ 8/80			NO DATA	2.5	2.5	17.8
34	5/10/80			NO DATA	0.0	0.0	17.8
34	5/10/80			NO DATA	2.5	2.5	20.3
34	5/12/80			NO DATA	0.0	0.0	20.3
34	5/12/80			NO DATA	1.3	1.3	21.6
34	5/14/80			NO DATA	0.0	0.0	21.6
34	5/14/80			NO DATA	1.0	1.0	22.6
34	5/16/80			NO DATA	0.0	0.0	22.6
34	5/16/80			NO DATA	2.5	2.5	25.1
34	5/17/80			NO DATA	0.0	0.0	25.1
34	5/17/80			NO DATA	3.8	3.8	29.0
34	5/18/80			NO DATA	0.0	0.0	29.0
34	5/18/80			NO DATA	4.1	4.1	33.0
34	5/27/80			NO DATA	0.0	0.0	33.0
34	5/27/80			NO DATA	1.3	1.3	34.3
34	5/29/80	2	7	0.0	0.0	0.0	34.3
34	5/29/80	2	9	35.6	1.2	1.2	35.5
34	5/29/80	2	11	62.4	3.3	3.3	37.6
34	5/29/80	2	20	4.0	3.9	3.9	38.1
34	5/29/80	7	17	0.2	4.8	4.8	39.0
34	5/29/80	7	18	53.5	5.6	5.6	39.9
34	5/29/80	7	21	11.9	6.2	6.2	40.5
34	5/29/80	7	24	59.4	9.2	9.2	43.5
34	5/29/80	7	27	47.5	11.6	11.6	45.9
34	5/29/80	7	30	59.4	14.6	14.6	48.8
34	5/29/80	7	33	35.6	16.3	16.3	50.6
34	5/29/80	7	39	71.3	23.5	23.5	57.7
34	5/29/80	7	42	11.9	24.1	24.1	58.3
34	5/29/80	8	16	2.1	25.2	25.2	59.5
34	5/29/80	8	18	26.7	26.1	26.1	60.4
34	5/29/80	8	28	5.3	27.0	27.0	61.3
34	5/29/80	8	30	44.5	28.5	28.5	62.8
34	5/29/80	8	35	53.5	33.0	33.0	67.3
34	5/29/80	9	48	0.7	33.5	33.5	68.1
34	5/29/80	9	51	11.9	34.5	34.5	68.7
34	5/29/80	10	44	3.0	37.1	37.1	71.4
34	5/29/80	10	46	26.7	38.0	38.0	72.3
34	5/29/80	11	0	2.5	38.6	38.6	72.9
34	5/30/80			NO DATA	0.0	0.0	72.9
34	5/30/80			NO DATA	7.9	7.9	80.8
34	6/ 1/80			NO DATA	0.0	0.0	80.8
34	6/ 1/80			NO DATA	5.1	5.1	85.8
34	6/ 2/80			NO DATA	0.0	0.0	85.8
34	6/ 2/80			NO DATA	8.1	8.1	94.0
34	6/ 2/80	17	21	0.0	0.0	8.1	94.0
34	6/ 2/80	17	28	45.6	5.3	13.4	99.3
34	6/ 2/80	17	33	29.6	7.8	15.9	101.8
34	6/ 2/80	17	36	42.6	9.9	18.1	103.9
34	6/ 2/80	17	43	9.1	11.0	19.1	105.0
34	6/ 2/80	17	51	2.7	11.3	19.5	105.3
34	6/ 2/80	17	55	16.0	12.4	20.5	106.4
34	6/ 2/80	17	56	63.5	13.5	21.6	107.5
34	6/ 2/80	17	58	42.5	14.9	23.0	108.9
34	6/ 2/80	18	2	26.6	16.7	24.8	110.6
34	6/ 2/80	18	13	7.7	18.1	26.2	112.1
34	6/ 2/80	18	29	2.7	18.8	26.9	112.8
34	6/ 6/80	18	47	0.0	0.0	0.0	112.8
34	6/ 6/80	18	49	195.5	6.5	6.5	119.3
34	6/ 6/80	19	0	19.8	10.2	10.2	122.9
34	6/ 7/80	4	47	0.0	0.0	0.0	122.9
34	6/ 7/80	4	53	20.3	2.0	2.0	125.0
34	6/ 7/80	5	5	15.2	5.1	5.1	128.0

TABLE B1-10. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
34	6/ 7/80	5	10	6.1	5.6	5.6	128.5
34	6/12/80			NO DATA	0.0	0.0	128.5
34	6/12/80			NO DATA	0.8	0.8	129.3
34	6/13/80			NO DATA	0.0	0.0	129.3
34	6/13/80			NO DATA	1.0	1.0	130.3
34	6/13/80			NO DATA	0.0	1.0	130.3
34	6/13/80			NO DATA	20.3	21.3	150.6
34	6/14/80			NO DATA	0.0	0.0	150.6
34	6/14/80			NO DATA	4.3	4.3	154.9
34	6/15/80	0	20	0.0	0.0	0.0	154.9
34	6/15/80	0	31	1.4	0.3	0.3	155.2
34	6/15/80	2	25	0.1	0.5	0.5	155.5
34	6/15/80	2	37	3.9	1.3	1.3	156.2
34	6/15/80	2	50	3.6	2.1	2.1	157.0
34	6/15/80	3	2	2.6	2.6	2.6	157.5
34	6/15/80	3	15	8.4	4.4	4.4	159.4
34	6/15/80	3	19	31.3	6.5	6.5	161.5
34	6/15/80	3	22	88.8	11.0	11.0	165.9
34	6/15/80	3	26	39.2	13.6	13.6	168.5
34	6/15/80	3	37	2.8	14.1	14.1	169.0
34	6/15/80	3	50	4.8	15.1	15.1	170.1
34	6/15/80	4	3	3.6	15.9	15.9	170.9
34	6/15/80	4	40	0.8	16.5	16.5	171.4
34	6/15/80	5	5	1.3	17.0	17.0	171.9
34	6/15/80	5	23	0.9	17.2	17.2	172.2
34	6/15/80	5	38	3.1	18.0	18.0	173.0
34	6/15/80	6	0	1.4	18.5	18.5	173.5
34	6/18/80			NO DATA	0.0	0.0	173.5
34	6/18/80			NO DATA	9.4	9.4	182.9
34	7/ 9/80	4	35	0.0	0.0	0.0	182.9
34	7/ 9/80	4	38	92.5	4.6	4.6	187.5
34	7/ 9/80	5	15	2.1	5.9	5.9	188.8
34	7/ 9/80	5	20	7.9	6.6	6.6	189.5
34	7/16/80	0	22	0.0	0.0	0.0	189.5
34	7/16/80	0	27	40.8	3.4	3.4	192.9
34	7/16/80	0	30	135.8	10.2	10.2	199.7
34	7/16/80	0	32	112.1	13.9	13.9	203.4
34	7/16/80	0	40	30.6	18.0	18.0	207.5
34	7/16/80	0	59	2.1	18.7	18.7	208.2
34	7/16/80	1	9	18.3	21.7	21.7	211.2
34	7/16/80	1	22	14.1	24.8	24.8	214.3
34	7/16/80	1	26	25.5	26.5	26.5	216.0
34	7/16/80	2	42	3.2	30.6	30.6	220.0
34	7/16/80	2	54	3.4	31.2	31.2	220.7
34	7/18/80			NO DATA	0.0	0.0	220.7
34	7/18/80			NO DATA	5.3	5.3	226.1
34	7/25/80			NO DATA	0.0	0.0	226.1
34	7/25/80			NO DATA	2.5	2.5	228.6
34	7/26/80			NO DATA	0.0	0.0	228.6
34	7/26/80			NO DATA	1.8	1.8	230.4
34	8/ 4/80			NO DATA	0.0	0.0	230.4
34	8/ 4/80			NO DATA	3.0	3.0	233.4
34	8/ 6/80	0	49	0.0	0.0	0.0	233.4
34	8/ 6/80	0	53	28.8	1.9	1.9	235.3
34	8/ 6/80	1	2	56.8	10.4	10.4	243.9
34	8/ 6/80	1	7	16.5	11.8	11.8	245.2
34	8/ 6/80	1	10	82.4	15.9	15.9	249.4
34	8/ 6/80	1	12	82.4	18.7	18.7	252.1
34	8/ 6/80	1	15	38.5	20.6	20.6	254.0
34	8/ 6/80	1	18	41.2	23.3	23.3	256.8
34	8/ 6/80	1	23	33.0	25.5	25.5	259.0
34	8/ 6/80	1	29	27.5	28.3	28.3	261.7
34	8/ 6/80	1	32	11.0	28.8	28.8	262.3
34	8/ 6/80	1	44	31.6	35.2	35.2	268.6
34	8/ 6/80	1	50	27.5	37.9	37.9	271.3
34	8/ 6/80	1	55	98.9	46.1	46.1	279.6
34	8/ 6/80	1	58	137.4	53.0	53.0	286.4
34	8/ 6/80	2	10	103.0	73.6	73.6	307.0
34	8/ 6/80	2	11	329.6	79.1	79.1	312.5
34	8/ 6/80	2	15	53.6	82.7	82.7	316.1
34	8/ 6/80	2	20	56.0	87.4	87.4	320.8
34	8/ 6/80	2	27	2.4	87.6	87.6	321.0
34	8/ 8/80			NO DATA	0.0	0.0	321.0
34	8/ 8/80			NO DATA	0.8	0.8	321.8
34	8/ 9/80	2	54	0.0	0.0	0.0	321.8
34	8/ 9/80	3	35	1.4	0.9	0.9	322.8
34	8/ 9/80	4	0	3.8	2.5	2.5	324.3
34	8/ 9/80	4	58	1.0	3.5	3.5	325.3
34	8/ 9/80	5	17	4.0	4.7	4.7	326.5
34	8/ 9/80	5	31	6.7	6.3	6.3	328.1
34	8/ 9/80	5	49	9.4	9.1	9.1	330.9
34	8/ 9/80	6	9	3.8	10.4	10.4	332.2
34	8/ 9/80	6	29	5.7	12.3	12.3	334.1
34	8/ 9/80	6	49	5.7	14.2	14.2	336.0
34	8/ 9/80	6	55	3.1	14.5	14.5	336.3
34	8/10/80	1	35	0.0	0.0	0.0	336.3
34	8/10/80	1	40	7.4	0.6	0.6	336.9
34	8/10/80	1	43	24.8	1.9	1.9	338.1
34	8/10/80	1	45	74.4	4.3	4.3	340.6

TABLE B1-10. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
34	8/10/80	1	49	13.9	5.3	5.3	341.6
34	8/10/80	1	55	21.7	7.4	7.4	343.7
34	8/10/80	2	7	4.6	8.4	8.4	344.7
34	8/10/80	2	15	11.6	9.9	9.9	346.2
34	8/10/80	2	17	46.5	11.5	11.5	347.8
34	8/10/80	4	7	0.5	12.4	12.4	348.7
34	8/10/80	4	10	18.6	13.3	13.3	349.6
34	8/10/80	4	20	5.6	14.3	14.3	350.5
34	8/10/80	4	55	2.1	15.5	15.5	351.8
34	8/10/80	6	30	0.6	16.4	16.4	352.7
34	8/10/80	6	50	1.9	17.0	17.0	353.3
34	8/10/80	7	15	0.7	17.4	17.4	353.6
34	8/10/80	7	21	6.2	18.0	18.0	354.3
34	8/10/80	7	29	2.3	18.3	18.3	354.6
34	8/11/80	3	50	0.0	0.0	0.0	354.6
34	8/11/80	4	9	2.9	0.9	0.9	355.5
34	8/11/80	4	12	48.7	3.3	3.3	357.9
34	8/11/80	4	15	60.9	6.4	6.4	361.0
34	8/11/80	4	21	45.6	11.0	11.0	365.5
34	8/11/80	4	29	63.9	19.5	19.5	374.0
34	8/11/80	4	40	13.3	21.9	21.9	376.5
34	8/11/80	4	55	9.7	24.3	24.3	378.9
34	8/11/80	5	27	4.6	26.8	26.8	381.3
34	8/11/80	5	37	5.5	27.7	27.7	382.3
34	8/11/80	6	0	1.6	28.3	28.3	382.9
34	8/11/80	6	40	1.4	29.2	29.2	383.8
34	8/16/80	4	45	0.0	0.0	0.0	383.8
34	8/16/80	5	9	5.8	2.3	2.3	386.1
34	8/16/80	5	40	3.9	4.4	4.4	388.1
34	8/16/80	6	14	1.5	5.2	5.2	389.0
34	8/16/80	6	35	2.5	6.1	6.1	389.9
34	8/16/80	6	44	7.7	7.3	7.3	391.0
34	8/16/80	7	6	4.0	8.7	8.7	392.5
34	8/16/80	8	0	3.2	11.6	11.6	395.4
34	8/16/80	8	30	1.7	12.5	12.5	396.3
34	8/16/80	8	50	5.2	14.2	14.2	398.0
34	8/16/80	9	20	2.3	15.4	15.4	399.2
34	8/16/80	9	36	7.6	17.4	17.4	401.2
34	8/16/80	9	51	5.8	18.9	18.9	402.7
34	8/16/80	9	58	24.9	21.8	21.8	405.6
34	8/16/80	10	13	2.3	22.4	22.4	406.1
34	8/16/80	10	17	47.9	25.5	25.5	409.3
34	8/16/80	10	27	20.9	29.0	29.0	412.8
34	8/16/80	10	40	6.7	30.5	30.5	414.3
34	8/16/80	10	48	15.2	32.5	32.5	416.3
34	8/16/80	10	53	7.0	33.1	33.1	416.9
34	8/16/80	11	3	1.7	33.4	33.4	417.2
34	8/16/80	11	8	7.0	34.0	34.0	417.7
34	8/16/80	11	59	2.4	36.0	36.0	419.8
34	8/16/80	12	3	13.1	36.9	36.9	420.6
34	8/16/80	12	37	2.0	38.0	38.0	421.8
34	8/16/80	12	39	34.6	39.2	39.2	423.0
34	8/16/80	13	7	3.1	40.6	40.6	424.4
34	8/17/80			NO DATA	0.0	0.0	424.4
34	8/17/80			NO DATA	2.0	2.0	426.5
34	8/19/80	2	42	0.0	0.0	0.0	426.5
34	8/19/80	2	45	106.2	5.3	5.3	431.8
34	8/19/80	2	49	27.7	7.2	7.2	433.6
34	8/19/80	2	56	4.0	7.6	7.6	434.1
34	8/28/80			NO DATA	0.0	0.0	434.1
34	8/28/80			NO DATA	0.8	0.8	434.8
34	8/30/80			NO DATA	0.0	0.0	434.8
34	8/30/80			NO DATA	4.3	4.3	439.2
34	8/31/80			NO DATA	0.0	0.0	439.2
34	8/31/80			NO DATA	2.5	2.5	441.7
34	9/ 1/80			NO DATA	0.0	0.0	441.7
34	9/ 1/80			NO DATA	4.3	4.3	446.0
34	9/ 4/80	0	24	0.0	0.0	0.0	446.0
34	9/ 4/80	0	26	38.1	1.3	1.3	447.3
34	9/ 4/80	0	35	40.6	7.4	7.4	453.4
34	9/ 4/80	0	41	10.2	8.4	8.4	454.4
34	9/ 4/80	1	17	5.1	11.4	11.4	457.4
34	9/ 4/80	1	45	2.7	12.7	12.7	458.7
34	9/ 4/80	2	20	1.3	13.5	13.5	459.5
34	9/ 4/80	2	58	1.6	14.5	14.5	460.5
34	9/ 4/80	3	1	40.6	16.5	16.5	462.5
34	9/ 4/80	3	8	6.5	17.3	17.3	463.3
34	9/ 4/80	3	13	6.1	17.8	17.8	463.8
34	9/ 4/80	3	15	30.5	18.8	18.8	464.8
34	9/ 4/80	3	19	15.2	19.8	19.8	465.8
34	9/ 4/80	3	25	45.7	24.4	24.4	470.4
34	9/ 4/80	3	31	15.2	25.9	25.9	471.9
34	9/ 4/80	3	46	2.0	26.4	26.4	472.4
34	9/ 4/80	3	53	15.2	28.2	28.2	474.2
34	9/ 4/80	4	0	4.4	28.7	28.7	474.7
34	9/ 4/80	4	32	1.0	29.2	29.2	475.2
34	9/ 6/80	13	6	0.0	0.0	0.0	475.2
34	9/ 6/80	13	12	55.1	5.5	5.5	480.7
34	9/ 6/80	13	19	49.3	11.3	11.3	486.5
34	9/ 6/80	13	30	3.9	12.0	12.0	487.2
34	9/ 6/80	13	44	3.1	12.7	12.7	487.9
34	9/ 9/80			NO DATA	0.0	0.0	487.9
34	9/ 9/80			NO DATA	4.6	4.6	492.5

TABLE B1-10. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
34	9/12/80	3	26	0.0	0.0	0.0	492.5
34	9/12/80	3	28	43.5	1.5	1.5	493.9
34	9/12/80	3	36	4.4	2.0	2.0	494.5
34	9/12/80	3	41	48.8	6.1	6.1	498.6
34	9/12/80	3	44	34.8	7.8	7.8	500.3
34	9/12/80	3	55	11.1	9.9	9.9	502.4
34	9/12/80	4	0	3.5	10.2	10.2	502.6
34	9/12/80			NO DATA	0.0	10.2	502.6
34	9/12/80			NO DATA	4.3	14.5	507.0
34	9/13/80			NO DATA	0.0	0.0	507.0
34	9/13/80			NO DATA	5.1	5.1	512.0
34	9/20/80	3	28	0.0	0.0	0.0	512.0
34	9/20/80	3	30	61.0	2.0	2.0	514.1
34	9/20/80	3	36	10.2	3.0	3.0	515.1
34	9/20/80	3	42	7.6	3.8	3.8	515.9
34	9/20/80	3	53	1.4	4.1	4.1	516.1
34	9/20/80	4	7	2.2	4.6	4.6	516.6
34	9/20/80	4	12	12.2	5.6	5.6	517.6
34	9/20/80	4	17	18.3	7.1	7.1	519.2
34	9/20/80	4	23	12.7	8.4	8.4	520.4
34	9/20/80	4	32	3.4	8.9	8.9	520.9
34	9/21/80			NO DATA	0.0	0.0	520.9
34	9/21/80			NO DATA	5.1	5.1	526.0
34	10/16/80	4	30	0.0	0.0	0.0	526.0
34	10/16/80	5	58	0.8	1.2	1.2	527.2
34	10/16/80	9	58	0.1	1.5	1.5	527.5
34	10/16/80	10	4	2.9	1.8	1.8	527.8
34	10/16/80	10	43	0.5	2.1	2.1	528.1
34	10/16/80	10	48	31.7	4.7	4.7	530.7
34	10/16/80	11	0	7.3	6.2	6.2	532.2
34	10/16/80	11	10	3.5	6.7	6.7	532.8
34	10/16/80	11	55	0.4	7.0	7.0	533.0
34	10/16/80	12	10	2.3	7.6	7.6	533.6
34	10/16/80	21	40	0.0	0.0	7.6	533.6
34	10/16/80	21	45	3.4	0.3	7.9	533.9
34	10/16/80	21	52	14.8	2.0	9.6	535.6
34	10/16/80	21	53	137.6	4.3	11.9	537.9
34	10/16/80	21	55	25.8	5.2	12.8	538.8
34	10/16/80	22	0	13.9	6.3	13.9	539.9
34	10/16/80	22	3	57.4	9.2	16.8	542.8
34	10/16/80	23	18	0.5	9.8	17.4	543.4
34	10/16/80	23	20	51.6	11.5	19.1	545.1
34	10/16/80	23	24	81.7	16.9	24.5	550.6
34	10/16/80	23	30	8.6	17.8	25.4	551.4
34	10/23/80	18	50	0.0	0.0	0.0	551.4
34	10/23/80	19	13	0.7	0.3	0.3	551.7
34	10/23/80	19	24	4.7	1.1	1.1	552.6
34	10/23/80	19	27	11.4	1.7	1.7	553.1
34	10/23/80	19	33	5.7	2.3	2.3	553.7
34	10/23/80	20	13	0.4	2.6	2.6	554.0
34	10/23/80	20	16	11.4	3.1	3.1	554.5
34	10/23/80	20	28	2.8	3.7	3.7	555.1
34	10/23/80	20	40	1.4	4.0	4.0	555.4
34	10/23/80	20	47	7.3	4.8	4.8	556.3
34	10/23/80	21	17	1.1	5.4	5.4	556.8
34	10/23/80	21	33	5.3	6.8	6.8	558.2
34	10/23/80	21	45	2.8	7.4	7.4	558.8
34	10/23/80	21	58	7.5	9.1	9.1	560.5
34	10/23/80	22	15	2.0	9.7	9.7	561.1
34	10/23/80	22	20	3.4	10.0	10.0	561.4
34	10/23/80	22	41	3.2	11.1	11.1	562.5
34	10/23/80	23	15	2.5	12.5	12.5	563.9
34	10/23/80	23	44	1.8	13.4	13.4	564.8
34	10/23/80	24	0	2.1	14.0	14.0	565.4
34	10/24/80	0	10	1.7	14.2	0.3	565.6
34	10/24/80	0	40	1.7	15.1	1.1	566.5
34	10/24/80	0	58	2.8	15.9	2.0	567.4
34	10/24/80	1	20	2.3	16.8	2.8	568.2
34	10/24/80	1	30	6.8	17.9	4.0	569.3
34	10/24/80	1	50	1.7	18.5	4.6	569.9
34	10/24/80	2	5	3.4	19.4	5.4	570.8
34	10/24/80	2	25	2.6	20.2	6.3	571.6
34	10/24/80	3	3	2.7	21.9	8.0	573.3
34	10/24/80	3	40	3.2	23.9	10.0	575.3
34	10/24/80	4	4	1.4	24.5	10.5	575.9
34	10/24/80	4	30	0.7	24.8	10.8	576.2
34	10/24/80	5	10	0.5	25.3	11.4	576.7
34	10/24/80	5	40	1.1	25.9	12.0	577.3
34	10/27/80			NO DATA	0.0	0.0	577.3
34	10/27/80			NO DATA	1.3	1.3	578.6

TABLE B1-11. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1980 GAGE 35

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
35	4/ 3/80			NO DATA	0.0	0.0	0.0
35	4/ 3/80			NO DATA	12.7	12.7	12.7
35	4/ 6/80			NO DATA	0.0	0.0	12.7
35	4/ 6/80			NO DATA	3.0	3.0	15.7
35	4/ 8/80			NO DATA	0.0	0.0	15.7
35	4/ 8/80			NO DATA	1.3	1.3	17.0
35	5/10/80			NO DATA	0.0	0.0	17.0
35	5/10/80			NO DATA	3.8	3.8	20.8
35	5/12/80			NO DATA	0.0	0.0	20.8
35	5/12/80			NO DATA	1.3	1.3	22.1
35	5/14/80			NO DATA	0.0	0.0	22.1
35	5/14/80			NO DATA	1.5	1.5	23.6
35	5/16/80			NO DATA	0.0	0.0	23.6
35	5/16/80			NO DATA	3.0	3.0	26.7
35	5/17/80			NO DATA	0.0	0.0	26.7
35	5/17/80			NO DATA	3.8	3.8	30.5
35	5/18/80			NO DATA	0.0	0.0	30.5
35	5/18/80			NO DATA	3.8	3.8	34.3
35	5/27/80	17	50	0.0	0.0	0.0	34.3
35	5/27/80	18	58	1.3	1.5	1.5	35.8
35	5/27/80	19	0	70.3	3.8	3.8	38.1
35	5/27/80	19	3	29.3	5.3	5.3	39.6
35	5/27/80	19	58	1.0	6.2	6.2	40.4
35	5/27/80	20	10	2.9	6.7	6.7	41.0
35	5/27/80	21	23	0.2	7.0	7.0	41.3
35	5/27/80	21	30	5.0	7.6	7.6	41.9
35	5/28/80	19	35	0.0	0.0	0.0	41.9
35	5/28/80	20	0	1.9	0.8	0.8	42.7
35	5/28/80	20	30	2.2	1.9	1.9	43.8
35	5/28/80	21	0	0.5	2.2	2.2	44.1
35	5/29/80	1	58	0.0	2.2	0.0	44.1
35	5/29/80	2	1	64.5	5.4	3.2	47.3
35	5/29/80	2	11	9.7	7.0	4.8	48.9
35	5/29/80	2	17	40.3	11.0	8.9	52.9
35	5/29/80	3	0	0.8	11.6	9.4	53.5
35	5/29/80	5	23	0.0	11.6	9.4	53.5
35	5/29/80	5	30	4.6	12.1	10.0	54.0
35	5/29/80	7	25	0.1	12.4	10.2	54.3
35	5/29/80	7	30	16.1	13.7	11.6	55.6
35	5/29/80	7	37	39.2	18.3	16.1	60.2
35	5/29/80	7	44	36.9	22.6	20.4	64.5
35	5/29/80	7	55	2.9	23.1	21.0	65.0
35	5/29/80	8	10	2.2	23.7	21.5	65.6
35	5/29/80	8	32	0.7	23.9	21.8	65.8
35	5/29/80	8	35	21.5	25.0	22.9	66.9
35	5/29/80	8	40	45.2	28.8	26.6	70.7
35	5/29/80	9	18	1.3	29.6	27.4	71.5
35	5/29/80	9	20	24.2	30.4	28.2	72.3
35	5/29/80	10	24	0.5	30.9	28.8	72.8
35	5/29/80	10	46	1.5	31.5	29.3	73.4
35	5/29/80	10	50	104.5	38.5	36.3	80.4
35	5/29/80	10	55	12.5	39.5	37.4	81.4
35	5/29/80	11	44	0.7	40.1	37.9	82.0
35	5/29/80	11	48	76.6	45.2	43.0	87.1
35	5/29/80	11	52	8.1	45.7	43.6	87.6
35	5/30/80	0	30	0.0	0.0	0.0	87.6
35	5/30/80	0	33	44.8	2.2	2.2	89.9
35	5/30/80	0	38	26.5	4.5	4.5	92.1
35	5/30/80	0	46	4.2	5.0	5.0	92.7
35	5/30/80	0	49	56.0	7.8	7.8	95.5
35	5/30/80	0	53	33.6	10.1	10.1	97.7
35	5/30/80	1	27	1.0	10.6	10.6	98.3
35	5/30/80	1	30	83.5	14.8	14.8	102.5
35	5/30/80	1	40	10.1	16.5	16.5	104.1
35	5/30/80	1	56	2.1	17.1	17.1	104.7
35	5/30/80	2	16	1.7	17.6	17.6	105.3
35	5/30/80	2	20	4.2	17.9	17.9	105.5
35	5/30/80	2	33	2.6	18.5	18.5	106.1
35	5/30/80	2	50	3.0	19.3	19.3	106.9
35	6/ 1/80	0	20	0.0	0.0	0.0	106.9
35	6/ 1/80	0	40	3.6	1.3	1.3	108.2
35	6/ 1/80	0	50	1.5	1.5	1.5	108.5
35	6/ 1/80	0	57	4.4	2.0	2.0	109.0
35	6/ 1/80	1	40	0.7	2.5	2.5	109.5
35	6/ 1/80	2	10	2.5	3.8	3.8	110.7
35	6/ 1/80	2	40	2.0	4.8	4.8	111.8
35	6/ 1/80	3	20	0.8	5.3	5.3	112.3
35	6/ 2/80	8	5	0.0	0.0	0.0	112.3
35	6/ 2/80	8	30	1.5	0.6	0.6	112.9
35	6/ 2/80	8	50	4.6	2.1	2.1	114.4
35	6/ 2/80	9	10	1.8	2.8	2.8	115.0
35	6/ 2/80	9	34	10.0	6.8	6.8	119.0
35	6/ 2/80	9	42	4.6	7.4	7.4	119.6
35	6/ 2/80	17	5	0.0	0.0	7.4	119.6
35	6/ 2/80	17	8	30.6	1.5	8.9	121.2
35	6/ 2/80	17	10	45.5	3.1	10.4	122.7
35	6/ 2/80	17	20	16.5	5.8	13.2	125.4
35	6/ 2/80	17	27	15.7	7.6	15.0	127.3
35	6/ 2/80	17	32	110.1	16.8	24.2	136.5
35	6/ 2/80	17	35	91.8	21.4	28.8	141.0

TABLE B1-11. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
35	6/ 2/80	17	40	18.4	22.9	30.3	142.6
35	6/ 2/80	18	0	1.8	23.6	30.9	143.2
35	6/ 2/80	18	3	18.4	24.5	31.8	144.1
35	6/ 2/80	18	10	2.6	24.8	32.1	144.4
35	6/ 2/80	18	13	24.5	26.0	33.4	145.6
35	6/ 2/80	18	17	13.8	26.9	34.3	146.6
35	6/ 2/80	18	23	12.2	28.1	35.5	147.8
35	6/ 2/80	18	40	1.1	28.4	35.8	148.1
35	6/ 4/80			NO DATA	0.0	0.0	148.1
35	6/ 4/80			NO DATA	1.3	1.3	149.3
35	6/ 6/80	18	49	0.0	0.0	0.0	149.3
35	6/ 6/80	18	56	33.7	3.9	3.9	153.3
35	6/ 6/80	19	0	29.5	5.9	5.9	155.2
35	6/ 6/80	19	2	59.0	7.9	7.9	157.2
35	6/ 6/80	19	4	59.0	9.8	9.8	159.2
35	6/ 6/80	19	6	70.8	12.2	12.2	161.5
35	6/ 7/80	4	50	0.0	0.0	0.0	161.5
35	6/ 7/80	4	59	20.0	3.0	3.0	164.5
35	6/ 7/80	5	11	6.4	4.3	4.3	165.8
35	6/ 7/80	5	15	51.3	7.7	7.7	169.2
35	6/ 7/80	5	20	5.1	8.1	8.1	169.7
35	6/12/80			NO DATA	0.0	0.0	169.7
35	6/12/80			NO DATA	1.3	1.3	170.9
35	6/13/80			NO DATA	0.0	0.0	170.9
35	6/13/80			NO DATA	2.5	2.5	173.5
35	6/13/80	21	23	0.0	0.0	2.5	173.5
35	6/13/80	21	29	51.2	5.1	7.7	178.6
35	6/13/80	21	33	29.8	7.1	9.6	180.6
35	6/13/80	21	36	45.5	9.4	11.9	182.9
35	6/13/80	21	38	42.6	10.9	13.3	184.3
35	6/13/80	21	42	21.3	12.2	14.8	185.7
35	6/13/80	21	45	28.4	13.6	16.2	187.1
35	6/13/80	21	48	34.1	15.3	17.9	188.8
35	6/13/80	21	51	28.4	16.8	19.3	190.2
35	6/13/80	21	58	9.7	17.9	20.4	191.4
35	6/13/80	22	4	5.7	18.5	21.0	191.9
35	6/13/80	22	10	11.4	19.6	22.1	193.1
35	6/13/80	22	30	3.4	20.7	23.3	194.2
35	6/13/80	23	4	2.5	22.2	24.7	195.6
35	6/13/80	24	0	0.6	22.7	25.3	196.2
35	6/14/80	0	20	1.7	23.3	0.6	196.8
35	6/14/80	0	39	1.8	23.9	1.1	197.3
35	6/14/80	1	10	1.7	24.7	2.0	198.2
35	6/14/80	1	25	3.4	25.6	2.8	199.1
35	6/14/80	1	53	1.2	26.1	3.4	199.6
35	6/14/80	2	0	2.4	26.4	3.7	199.9
35	6/14/80	3	0	0.0	26.4	3.7	199.9
35	6/14/80	3	2	25.6	27.3	4.5	200.8
35	6/14/80	3	50	1.8	28.7	6.0	202.2
35	6/15/80	0	20	0.0	0.0	0.0	202.2
35	6/15/80	0	33	1.7	0.3	0.3	202.5
35	6/15/80	0	35	10.2	1.1	1.1	203.3
35	6/15/80	1	20	0.4	1.4	1.4	203.6
35	6/15/80	2	30	0.2	1.7	1.7	203.9
35	6/15/80	2	40	5.2	2.6	2.6	204.8
35	6/15/80	2	50	3.4	3.2	3.2	205.3
35	6/15/80	3	5	2.3	3.7	3.7	205.9
35	6/15/80	3	14	5.8	5.2	5.2	207.3
35	6/15/80	3	22	10.7	6.6	6.6	208.8
35	6/15/80	3	29	7.4	7.4	7.4	209.6
35	6/15/80	3	37	17.2	9.7	9.7	211.9
35	6/15/80	3	50	6.6	11.2	11.2	213.4
35	6/15/80	4	10	3.4	12.3	12.3	214.5
35	6/15/80	4	53	1.2	13.2	13.2	215.4
35	6/15/80	5	20	0.6	13.5	13.5	215.6
35	6/18/80			NO DATA	0.0	0.0	215.6
35	6/18/80			NO DATA	4.8	4.8	220.5
35	7/ 9/80			NO DATA	0.0	0.0	220.5
35	7/ 9/80			NO DATA	4.6	4.6	225.0
35	7/16/80	0	26	0.0	0.0	0.0	225.0
35	7/16/80	0	33	88.9	10.4	10.4	235.4
35	7/16/80	0	38	66.5	11.0	11.0	236.0
35	7/16/80	0	40	60.5	13.0	13.0	238.0
35	7/16/80	1	2	2.4	13.8	13.8	238.9
35	7/16/80	1	13	26.7	18.7	18.7	243.8
35	7/16/80	1	26	12.0	21.3	21.3	246.4
35	7/16/80	1	29	69.2	24.8	24.8	249.8
35	7/16/80	2	2	1.6	25.7	25.7	250.7
35	7/18/80			NO DATA	0.0	0.0	250.7
35	7/18/80			NO DATA	3.8	3.8	254.5
35	7/25/80			NO DATA	0.0	0.0	254.5
35	7/25/80			NO DATA	2.5	2.5	257.0
35	7/26/80			NO DATA	0.0	0.0	257.0
35	7/26/80			NO DATA	3.0	3.0	260.1
35	8/ 4/80			NO DATA	0.0	0.0	260.1
35	8/ 4/80			NO DATA	3.6	3.6	263.6
35	8/ 6/80	0	55	0.0	0.0	0.0	263.6
35	8/ 6/80	1	0	31.5	2.6	2.6	266.3
35	8/ 6/80	1	4	59.0	6.6	6.6	270.2

TABLE B1-11. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	YEAR MM
35	8/ 6/80	1	13	35.0	11.8	11.8	275.5
35	8/ 6/80	1	15	78.7	14.4	14.4	278.1
35	8/ 6/80	1	23	68.9	23.6	23.6	287.3
35	8/ 6/80	1	29	26.2	26.2	26.2	289.9
35	8/ 6/80	1	34	103.9	34.9	34.9	298.5
35	8/ 6/80	1	38	86.6	40.7	40.7	304.3
35	8/ 6/80	1	42	78.7	45.9	45.9	309.6
35	8/ 6/80	1	46	59.0	49.9	49.9	313.5
35	8/ 6/80	1	48	196.8	56.4	56.4	320.1
35	8/ 6/80	1	52	51.2	59.8	59.8	323.5
35	8/ 6/80	1	55	141.7	66.9	66.9	330.6
35	8/ 6/80	1	59	78.7	72.2	72.2	335.8
35	8/ 6/80	2	7	78.7	82.7	82.7	346.3
35	8/ 6/80	2	10	52.5	85.3	85.3	348.9
35	8/ 6/80	2	18	48.6	97.1	97.1	360.7
35	8/ 6/80	2	20	251.9	105.5	105.5	369.1
35	8/ 6/80	2	24	106.3	112.6	112.6	376.2
35	8/ 6/80	2	28	149.6	122.5	122.5	386.2
35	8/ 6/80	2	30	191.0	128.6	128.6	392.2
35	8/ 6/80	2	33	120.7	134.6	134.6	398.2
35	8/ 6/80	2	37	7.9	135.1	135.1	398.8
35	8/ 9/80	3	32	0.0	0.0	0.0	398.8
35	8/ 9/80	4	4	5.6	3.0	3.0	401.7
35	8/ 9/80	5	2	1.5	4.4	4.4	403.2
35	8/ 9/80	5	20	4.9	5.9	5.9	404.7
35	8/ 9/80	5	35	4.4	7.0	7.0	405.8
35	8/ 9/80	6	2	9.1	11.1	11.1	409.9
35	8/ 9/80	6	29	7.4	14.4	14.4	413.2
35	8/ 9/80	6	37	8.3	15.6	15.6	414.3
35	8/ 9/80	7	2	2.7	16.7	16.7	415.4
35	8/ 9/80	8	19	0.0	16.7	16.7	415.4
35	8/ 9/80	8	27	9.3	17.8	17.8	416.6
35	8/10/80	1	58	0.0	0.0	0.0	416.6
35	8/10/80	2	12	5.5	1.3	1.3	417.8
35	8/10/80	2	23	13.9	3.8	3.8	420.4
35	8/10/80	2	28	10.2	4.7	4.7	421.2
35	8/10/80	2	50	1.2	5.1	5.1	421.7
35	8/10/80	4	16	0.6	6.0	6.0	422.5
35	8/10/80	4	18	12.8	6.4	6.4	422.9
35	8/10/80	4	27	2.8	6.8	6.8	423.4
35	8/10/80	4	33	4.3	7.2	7.2	423.8
35	8/10/80	4	35	12.8	7.7	7.7	424.2
35	8/10/80	5	16	1.2	8.5	8.5	425.1
35	8/10/80	5	18	25.6	9.4	9.4	425.9
35	8/10/80	5	43	2.0	10.2	10.2	426.8
35	8/10/80	6	17	1.5	11.1	11.1	427.6
35	8/10/80	6	43	2.0	11.9	11.9	428.5
35	8/10/80	7	23	0.6	12.4	12.4	428.9
35	8/10/80	7	33	5.1	13.2	13.2	429.8
35	8/11/80	3	51	0.0	0.0	0.0	429.8
35	8/11/80	4	23	0.7	0.4	0.4	430.1
35	8/11/80	4	27	64.6	4.7	4.7	434.4
35	8/11/80	4	30	28.8	6.1	6.1	435.9
35	8/11/80	4	34	55.4	10.1	10.1	439.8
35	8/11/80	4	43	12.0	11.9	11.9	441.6
35	8/11/80	4	53	10.8	13.7	13.7	443.4
35	8/11/80	5	13	3.2	14.8	14.8	444.5
35	8/11/80	5	28	2.9	15.5	15.5	445.2
35	8/11/80	6	3	1.2	16.2	16.2	445.9
35	8/11/80	6	35	2.0	17.3	17.3	447.0
35	8/16/80	4	50	0.0	0.0	0.0	447.0
35	8/16/80	5	8	5.7	1.7	1.7	448.8
35	8/16/80	5	35	4.5	3.7	3.7	450.8
35	8/16/80	6	15	1.3	4.6	4.6	451.6
35	8/16/80	6	50	3.4	6.6	6.6	453.6
35	8/16/80	7	5	2.3	7.2	7.2	454.2
35	8/16/80	7	47	3.2	9.5	9.5	456.5
35	8/16/80	8	18	3.5	11.5	11.5	458.5
35	8/16/80	8	30	2.9	12.1	12.1	459.1
35	8/16/80	8	40	5.2	12.9	12.9	460.0
35	8/16/80	9	17	3.7	15.2	15.2	462.2
35	8/16/80	9	30	6.6	16.7	16.7	463.7
35	8/16/80	9	44	6.2	18.1	18.1	465.1
35	8/16/80	9	56	7.2	19.5	19.5	466.6
35	8/16/80	10	4	15.1	21.5	21.5	468.6
35	8/16/80	10	15	3.1	22.1	22.1	469.1
35	8/16/80	10	18	40.2	24.1	24.1	471.2
35	8/16/80	10	26	30.2	28.1	28.1	475.2
35	8/16/80	10	31	6.9	28.7	28.7	475.7
35	8/16/80	10	50	7.3	31.0	31.0	478.0
35	8/16/80	11	5	2.3	31.6	31.6	478.6
35	8/16/80	11	9	34.5	33.9	33.9	480.9
35	8/16/80	11	26	7.1	35.9	35.9	482.9
35	8/16/80	11	50	2.2	36.8	36.8	483.8
35	8/16/80	12	2	1.4	37.0	37.0	484.1
35	8/16/80	12	8	43.1	41.4	41.4	488.4
35	8/16/80	12	40	2.2	42.5	42.5	489.5
35	8/16/80	12	50	3.4	43.1	43.1	490.1
35	8/16/80	13	11	2.5	43.9	43.9	491.0
35	8/17/80			NO DATA	0.0	0.0	491.0
35	8/17/80			NO DATA	1.8	1.8	492.7
35	8/19/80	2	43	0.0	0.0	0.0	492.7
35	8/19/80	2	49	60.5	6.1	6.1	498.8
35	8/19/80	2	55	10.5	7.1	7.1	499.8
35	8/19/80	3	1	2.6	7.4	7.4	500.1
35	8/30/80			NO DATA	0.0	0.0	500.1
35	8/30/80			NO DATA	2.5	2.5	502.6

TABLE B1-11. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
35	8/31/80			NO DATA	0.0	0.0	502.6
35	8/31/80			NO DATA	2.5	2.5	505.2
35	9/ 1/80	16	48	0.0	0.0	0.0	505.2
35	9/ 1/80	16	53	6.6	0.6	0.6	505.7
35	9/ 1/80	16	56	66.3	3.9	3.9	509.1
35	9/ 1/80	17	10	5.9	5.2	5.2	510.4
35	9/ 1/80	17	18	2.1	5.5	5.5	510.7
35	9/ 1/80	17	22	8.3	6.1	6.1	511.3
35	9/ 1/80	17	28	2.8	6.3	6.3	511.5
35	9/ 4/80	0	33	0.0	0.0	0.0	511.5
35	9/ 4/80	0	45	28.9	5.8	5.8	517.3
35	9/ 4/80	1	10	5.6	8.1	8.1	519.6
35	9/ 4/80	1	35	3.5	9.5	9.5	521.1
35	9/ 4/80	1	50	2.3	10.1	10.1	521.7
35	9/ 4/80	2	56	3.3	10.4	10.4	522.0
35	9/ 4/80	3	5	3.9	11.0	11.0	522.5
35	9/ 4/80	3	9	34.7	13.3	13.3	524.8
35	9/ 4/80	3	18	5.8	14.2	14.2	525.7
35	9/ 4/80	3	20	43.4	15.6	15.6	527.2
35	9/ 4/80	3	25	10.4	16.5	16.5	528.0
35	9/ 4/80	3	31	43.4	20.8	20.8	532.4
35	9/ 4/80	3	40	7.7	22.0	22.0	533.5
35	9/ 4/80	3	52	2.9	22.6	22.6	534.1
35	9/ 4/80	3	56	43.4	25.5	25.5	537.0
35	9/ 4/80	4	2	46.3	30.1	30.1	541.6
35	9/ 4/80	4	10	8.7	31.2	31.2	542.8
35	9/ 6/80	13	18	0.0	0.0	0.0	542.8
35	9/ 6/80	13	22	78.2	5.2	5.2	548.0
35	9/ 6/80	13	25	67.7	8.6	8.6	551.4
35	9/ 6/80	13	27	109.4	12.2	12.2	555.0
35	9/ 6/80	13	31	82.1	17.7	17.7	560.5
35	9/ 6/80	13	34	36.5	19.5	19.5	562.3
35	9/ 6/80	13	45	4.3	20.3	20.3	563.1
35	9/ 9/80			NO DATA	0.0	0.0	563.1
35	9/ 9/80			NO DATA	5.1	5.1	568.2
35	9/12/80			NO DATA	0.0	0.0	568.2
35	9/12/80			NO DATA	9.1	9.1	577.3
35	9/13/80			NO DATA	0.0	0.0	577.3
35	9/13/80			NO DATA	5.6	5.6	582.9
35	9/20/80			NO DATA	0.0	0.0	582.9
35	9/20/80			NO DATA	7.6	7.6	590.5
35	9/21/80			NO DATA	0.0	0.0	590.5
35	9/21/80			NO DATA	7.6	7.6	598.1

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
35	10/16/80	4	38	0.0	0.0	0.0	598.1
35	10/16/80	4	41	17.5	0.9	0.9	599.0
35	10/16/80	5	27	0.4	1.2	1.2	599.3
35	10/16/80	5	36	1.5	1.5	1.5	599.6
35	10/16/80	8	41	0.1	1.8	1.8	599.9
35	10/16/80	8	56	1.2	2.0	2.0	600.2
35	10/16/80	10	0	0.3	2.3	2.3	600.5
35	10/16/80	10	6	2.5	2.6	2.6	600.8
35	10/16/80	10	44	0.5	2.9	2.9	601.1
35	10/16/80	10	51	32.6	6.7	6.7	604.9
35	10/16/80	10	59	4.4	7.3	7.3	605.5
35	10/16/80	11	2	17.5	8.2	8.2	606.3
35	10/16/80	11	13	1.6	8.5	8.5	606.6
35	10/16/80	11	27	2.5	9.1	9.1	607.2
35	10/16/80	11	51	0.7	9.4	9.4	607.5
35	10/16/80	12	11	0.5	9.7	9.7	607.8
35	10/16/80	22	1	0.0	0.0	9.7	607.8
35	10/16/80	22	6	10.7	0.9	10.5	608.7
35	10/16/80	22	10	44.5	3.9	13.5	611.7
35	10/16/80	22	11	88.5	5.3	15.0	613.1
35	10/16/80	22	23	3.0	5.9	15.6	613.7
35	10/16/80	22	26	11.5	6.5	16.2	614.3
35	10/16/80	22	36	1.8	6.8	16.5	614.6
35	10/16/80	22	38	62.2	8.9	18.5	616.7
35	10/16/80	22	41	29.6	10.4	20.0	618.2
35	10/16/80	22	46	3.6	10.7	20.3	618.5
35	10/23/80	19	3	0.0	0.0	0.0	618.5
35	10/23/80	20	15	2.2	2.8	2.8	621.3
35	10/23/80	20	18	15.2	3.6	3.6	622.0
35	10/23/80	20	25	2.2	3.8	3.8	622.3
35	10/23/80	20	30	6.1	4.3	4.3	622.8
35	10/23/80	20	35	6.1	4.8	4.8	623.3
35	10/23/80	20	45	1.5	5.1	5.1	623.5
35	10/23/80	20	53	3.8	5.6	5.6	624.1
35	10/23/80	21	17	1.5	6.3	6.3	624.8
35	10/23/80	21	30	7.0	7.9	7.9	626.3
35	10/23/80	21	44	2.2	8.4	8.4	626.8
35	10/23/80	21	55	5.5	9.4	9.4	627.9
35	10/23/80	22	10	3.0	10.2	10.2	628.6
35	10/23/80	22	30	3.8	11.4	11.4	629.9
35	10/23/80	23	0	2.5	12.7	12.7	631.2
35	10/23/80	23	30	2.0	13.7	13.7	632.2
35	10/23/80	23	40	3.0	14.2	14.2	632.7
35	10/23/80	24	0	2.3	15.0	15.0	633.5
35	10/24/80	0	20	2.3	15.7	0.8	634.2
35	10/24/80	0	40	1.5	16.3	1.3	634.7
35	10/24/80	1	10	2.0	17.3	2.3	635.7
35	10/24/80	1	43	3.2	19.0	4.1	637.5
35	10/24/80	2	7	3.2	20.3	5.3	638.8
35	10/24/80	2	30	3.3	21.6	6.6	640.1

TABLE B1-11. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
35	10/24/80	2	47	3.6	22.6	7.6	641.1
35	10/24/80	3	3	3.8	23.6	8.6	642.1
35	10/24/80	3	20	1.8	24.1	9.1	642.6
35	10/24/80	3	47	4.0	25.9	10.9	644.4
35	10/24/80	4	10	2.0	26.7	11.7	645.1
35	10/24/80	5	7	0.5	27.2	12.2	645.6
35	10/24/80	5	50	1.1	27.9	13.0	646.4
35	10/27/80			NO DATA	0.0	0.0	646.4
35	10/27/80			NO DATA	1.3	1.3	647.7

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM

TABLE B1-12. FOUR MILE CREEK WATERSHED PRECIPITATION DATA FOR 1980 GAGE 36

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	DAY MM	YEAR MM
36	1/ 4/80			SNOW	0.0	0.0	0.0
36	1/ 4/80			SNOW	3.0	3.0	3.0
36	1/ 6/80			SNOW	0.0	0.0	3.0
36	1/ 6/80			SNOW	10.2	10.2	13.2
36	1/ 8/80			SNOW	0.0	0.0	13.2
36	1/ 8/80			SNOW	2.5	2.5	15.7
36	1/16/80			NO DATA	0.0	0.0	15.7
36	1/16/80			NO DATA	28.2	28.2	43.9
36	1/19/80			SNOW	0.0	0.0	43.9
36	1/19/80			SNOW	1.5	1.5	45.5
36	1/23/80			SNOW	0.0	0.0	45.5
36	1/23/80			SNOW	2.0	2.0	47.5
36	1/30/80			SNOW	0.0	0.0	47.5
36	1/30/80			SNOW	2.3	2.3	49.8
36	2/ 5/80			SNOW	0.0	0.0	49.8
36	2/ 5/80			SNOW	4.8	4.8	54.6
36	2/15/80			SNOW	0.0	0.0	54.6
36	2/15/80			SNOW	1.3	1.3	55.9
36	2/21/80			NO DATA	0.0	0.0	55.9
36	2/21/80			NO DATA	12.2	12.2	68.1
36	2/25/80			NO DATA	0.0	0.0	68.1
36	2/25/80			NO DATA	9.7	9.7	77.7
36	2/26/80			NO DATA	0.0	0.0	77.7
36	2/26/80			NO DATA	0.5	0.5	78.2
36	3/ 4/80			NO DATA	0.0	0.0	78.2
36	3/ 4/80			NO DATA	9.9	9.9	88.1
36	3/13/80			NO DATA	0.0	0.0	88.1
36	3/13/80			NO DATA	6.3	6.3	94.5
36	3/31/80			NO DATA	0.0	0.0	94.5
36	3/31/80			NO DATA	10.2	10.2	104.6
36	4/ 3/80	1	40	0.0	0.0	0.0	104.6
36	4/ 3/80	1	50	1.6	0.3	0.3	104.9
36	4/ 3/80	2	25	1.8	1.3	1.3	106.0
36	4/ 3/80	3	8	2.2	2.9	2.9	107.6
36	4/ 3/80	3	20	4.0	3.7	3.7	108.4
36	4/ 3/80	3	41	2.3	4.5	4.5	109.2
36	4/ 3/80	4	0	6.8	6.7	6.7	111.3
36	4/ 3/80	4	10	3.2	7.2	7.2	111.9
36	4/ 3/80	4	42	1.0	7.8	7.8	112.4
36	4/ 3/80	7	50	0.4	9.1	9.1	113.7
36	4/ 3/80	11	10	0.0	9.1	9.1	113.7
36	4/ 3/80	11	44	0.5	9.4	9.4	114.0
36	4/ 3/80	11	48	10.0	10.4	10.4	115.1
36	4/ 3/80	12	0	5.2	11.5	11.5	116.1
36	4/ 3/80	12	10	1.6	11.8	11.8	116.4
36	4/ 3/80	12	40	0.5	12.0	12.0	116.7
36	4/ 3/80	13	0	2.4	12.8	12.8	117.5
36	4/ 3/80	13	20	0.8	13.1	13.1	117.7
36	4/ 3/80	13	26	5.2	13.6	13.6	118.3
36	4/ 3/80	13	42	2.0	14.2	14.2	118.8
36	4/ 3/80	14	0	0.5	14.4	14.4	119.1
36	4/ 3/80	14	10	1.6	14.7	14.7	119.3
36	4/ 3/80	14	50	0.4	15.0	15.0	119.6
36	4/ 3/80	15	20	0.5	15.2	15.2	119.9
36	4/ 6/80			NO DATA	0.0	0.0	119.9
36	4/ 6/80			NO DATA	3.6	3.6	123.4
36	4/ 8/80			NO DATA	0.0	0.0	123.4
36	4/ 8/80			NO DATA	1.3	1.3	124.7
36	5/10/80			NO DATA	0.0	0.0	124.7
36	5/10/80			NO DATA	5.1	5.1	129.8
36	5/12/80			NO DATA	0.0	0.0	129.8
36	5/12/80			NO DATA	1.3	1.3	131.1
36	5/14/80			NO DATA	0.0	0.0	131.1
36	5/14/80			NO DATA	3.3	3.3	134.4
36	5/16/80			NO DATA	0.0	0.0	134.4
36	5/16/80			NO DATA	3.0	3.0	137.4
36	5/17/80			NO DATA	0.0	0.0	137.4
36	5/17/80			NO DATA	3.3	3.3	140.7
36	5/18/80			NO DATA	0.0	0.0	140.7
36	5/18/80			NO DATA	4.3	4.3	145.0
36	5/27/80	18	55	0.0	0.0	0.0	145.0
36	5/27/80	18	59	87.5	5.8	5.8	150.9
36	5/27/80	19	3	35.8	8.5	8.5	153.5
36	5/27/80	19	10	11.4	9.8	9.8	154.8
36	5/27/80	19	58	1.0	10.6	10.6	155.6
36	5/27/80	20	3	9.6	11.4	11.4	156.4
36	5/27/80	21	30	0.4	11.9	11.9	157.0
36	5/28/80	19	40	0.0	0.0	0.0	157.0
36	5/28/80	19	54	1.1	0.3	0.3	157.2

TABLE B1-12. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
36	5/28/80	20	10	2.9	1.0	1.0	158.0
36	5/28/80	20	26	1.9	1.5	1.5	158.5
36	5/28/80	21	30	0.7	2.3	2.3	159.3
36	5/28/80	24	0	0.1	2.6	2.6	159.5
36	5/29/80	2	0	0.1	2.8	0.3	159.8
36	5/29/80	2	5	6.1	3.3	0.8	160.3
36	5/29/80	2	7	69.0	5.6	3.1	162.6
36	5/29/80	2	17	38.3	12.0	9.5	169.0
36	5/29/80	2	30	3.5	12.8	10.2	169.7
36	5/29/80	7	23	0.1	13.3	10.7	170.3
36	5/29/80	7	33	18.4	16.4	13.8	173.3
36	5/29/80	7	37	49.8	19.7	17.1	176.6
36	5/29/80	7	43	35.8	23.3	20.7	180.2
36	5/29/80	7	55	6.4	24.5	22.0	181.5
36	5/29/80	8	34	2.0	25.8	23.3	182.8
36	5/29/80	8	39	39.9	29.1	26.6	186.1
36	5/29/80	8	45	10.2	30.2	27.6	187.1
36	5/29/80	9	17	0.5	30.4	27.9	187.4
36	5/29/80	9	20	35.8	32.2	29.6	189.2
36	5/29/80	9	50	1.5	33.0	30.4	189.9
36	5/29/80	10	0	9.2	34.5	31.9	191.5
36	5/29/80	10	45	0.3	34.8	32.2	191.7
36	5/29/80	10	47	23.0	35.5	33.0	192.5
36	5/29/80	10	50	51.1	38.1	35.5	195.0
36	5/29/80	11	44	1.4	39.4	36.8	196.3
36	5/29/80	11	47	25.6	40.6	38.1	197.6
36	5/29/80	12	0	3.5	41.4	38.8	198.4
36	5/30/80	0	32	0.0	0.0	0.0	198.4
36	5/30/80	0	35	55.9	2.8	2.8	201.2
36	5/30/80	0	39	30.5	4.8	4.8	203.2
36	5/30/80	0	47	5.7	5.6	5.6	204.0
36	5/30/80	0	52	36.6	8.6	8.6	207.0
36	5/30/80	1	18	1.2	9.1	9.1	207.5
36	5/30/80	1	22	3.8	9.4	9.4	207.8
36	5/30/80	1	27	3.0	9.7	9.7	208.0
36	5/30/80	1	30	20.3	10.7	10.7	209.0
36	5/30/80	1	32	61.0	12.7	12.7	211.1
36	5/30/80	1	42	6.1	13.7	13.7	212.1
36	5/30/80	1	55	2.3	14.2	14.2	212.6
36	5/30/80	2	19	1.3	14.7	14.7	213.1
36	5/30/80	2	29	6.1	15.7	15.7	214.1
36	5/30/80	2	42	1.2	16.0	16.0	214.4
36	5/30/80	2	57	2.0	16.5	16.5	214.9
36	6/ 1/80	0	20	0.0	0.0	0.0	214.9
36	6/ 1/80	0	52	1.0	0.5	0.5	215.4
36	6/ 1/80	1	0	12.3	2.2	2.2	217.1
36	6/ 1/80	1	20	3.8	2.5	2.5	217.3
36	6/ 1/80	1	47	1.2	3.0	3.0	217.9
36	6/ 1/80	2	0	5.0	4.1	4.1	219.0
36	6/ 1/80	2	30	2.7	5.5	5.5	220.3
36	6/ 1/80	2	50	1.6	6.0	6.0	220.9
36	6/ 1/80	3	10	0.8	6.3	6.3	221.2
36	6/ 1/80	3	30	2.5	7.1	7.1	222.0
36	6/ 1/80	3	40	1.6	7.4	7.4	222.2
36	6/ 2/80	8	0	0.0	0.0	0.0	222.2
36	6/ 2/80	8	30	1.4	0.7	0.7	222.9
36	6/ 2/80	8	40	2.7	1.1	1.1	223.4
36	6/ 2/80	9	0	2.0	1.8	1.8	224.1
36	6/ 2/80	9	15	2.7	2.5	2.5	224.7
36	6/ 2/80	9	25	10.8	4.3	4.3	226.5
36	6/ 2/80	9	35	8.1	5.6	5.6	227.9
36	6/ 2/80	9	42	3.5	6.1	6.1	228.3
36	6/ 2/80	17	1	0.0	0.0	6.1	228.3
36	6/ 2/80	17	4	46.1	2.3	8.4	230.6
36	6/ 2/80	17	11	75.0	11.5	17.6	239.9
36	6/ 2/80	17	18	15.4	13.3	19.4	241.7
36	6/ 2/80	17	25	15.4	15.1	21.2	243.4
36	6/ 2/80	17	30	46.1	19.0	25.0	247.3
36	6/ 2/80	17	38	48.0	25.4	31.4	253.7
36	6/ 2/80	17	47	5.1	26.1	32.2	254.5
36	6/ 2/80	17	51	15.2	27.4	33.5	255.7
36	6/ 2/80	18	8	1.8	27.9	34.0	256.3
36	6/ 2/80	18	11	25.6	29.2	35.3	257.5
36	6/ 2/80	18	17	12.8	30.5	36.6	258.8
36	6/ 2/80	18	23	5.1	31.0	37.1	259.3
36	6/ 2/80	18	30	2.2	31.2	37.3	259.6
36	6/ 4/80			NO DATA	0.0	0.0	259.6
36	6/ 4/80			NO DATA	5.1	5.1	264.7
36	6/ 6/80	18	35	0.0	0.0	0.0	264.7
36	6/ 6/80	18	42	21.3	2.5	2.5	267.1
36	6/ 6/80	18	51	21.5	5.7	5.7	270.4
36	6/ 6/80	18	58	27.7	8.9	8.9	273.6
36	6/ 6/80	19	8	11.5	10.5	10.5	275.6
36	6/ 7/80			NO DATA	0.0	0.0	275.6
36	6/ 7/80			NO DATA	5.1	5.1	280.7
36	6/12/80			NO DATA	0.0	0.0	280.7
36	6/12/80			NO DATA	1.3	1.3	281.9
36	6/13/80			NO DATA	0.0	0.0	281.9
36	6/13/80			NO DATA	3.8	3.8	285.7
36	6/13/80	21	20	0.0	0.0	3.8	285.7
36	6/13/80	21	22	71.5	2.4	6.2	288.1
36	6/13/80	21	24	71.5	4.8	8.6	290.5
36	6/13/80	21	28	64.7	9.1	12.9	294.8
36	6/13/80	21	32	18.0	10.3	14.1	296.0

TABLE B1-12. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED PRECIPITATION STORM MM	DAY MM	YEAR MM
36	6/13/80	21	37	20.1	12.0	15.8	297.7
36	6/13/80	21	40	3.6	12.5	16.3	298.2
36	6/13/80	21	47	22.6	15.1	18.9	300.8
36	6/13/80	21	55	7.2	16.1	19.9	301.8
36	6/13/80	22	3	3.6	16.5	20.3	302.3
36	6/13/80	22	8	8.6	17.3	21.1	303.0
36	6/13/80	22	20	2.4	17.7	21.5	303.5
36	6/13/80	22	37	1.7	18.2	22.0	304.0
36	6/13/80	23	0	1.3	18.7	22.5	304.4
36	6/13/80	23	10	2.9	19.2	23.0	304.9
36	6/13/80	24	0	0.9	19.9	23.7	305.6
36	6/14/80	0	21	0.7	20.1	0.2	305.9
36	6/14/80	0	34	3.3	20.8	1.0	306.6
36	6/14/80	1	6	0.9	21.3	1.4	307.1
36	6/14/80	1	25	4.5	22.8	2.9	308.5
36	6/14/80	2	0	0.8	23.2	3.4	309.0
36	6/14/80	2	57	0.5	23.7	3.8	309.5
36	6/14/80	3	0	14.4	24.4	4.6	310.2
36	6/14/80	3	23	0.6	24.7	4.8	310.4
36	6/14/80	3	45	2.0	25.4	5.5	311.1
36	6/15/80	0	20	0.0	0.0	0.0	311.1
36	6/15/80	0	30	2.6	0.4	0.4	311.6
36	6/15/80	0	35	5.3	0.9	0.9	312.0
36	6/15/80	2	32	0.3	1.5	1.5	312.7
36	6/15/80	2	47	4.4	2.6	2.6	313.8
36	6/15/80	2	56	2.9	3.1	3.1	314.2
36	6/15/80	3	4	1.6	3.3	3.3	314.4
36	6/15/80	3	11	5.7	4.0	4.0	315.1
36	6/15/80	3	20	10.3	5.5	5.5	316.6
36	6/15/80	3	30	10.6	7.3	7.3	318.4
36	6/15/80	3	37	7.5	8.1	8.1	319.3
36	6/15/80	3	47	6.6	9.2	9.2	320.4
36	6/15/80	4	5	3.7	10.3	10.3	321.5
36	6/15/80	4	50	0.9	11.0	11.0	322.1
36	6/15/80	5	34	0.3	11.2	11.2	322.3
36	6/15/80	5	37	4.4	11.4	11.4	322.6
36	6/18/80			NO DATA	0.0	0.0	322.6
36	6/18/80			NO DATA	4.8	4.8	327.4
36	7/ 9/80	1	25	0.0	0.0	0.0	327.4
36	7/ 9/80	2	32	2.0	2.2	2.2	329.6
36	7/ 9/80	2	48	3.4	3.1	3.1	330.5
36	7/ 9/80	4	40	0.1	3.4	3.4	330.7
36	7/ 9/80	4	41	67.1	4.5	4.5	331.9
36	7/ 9/80	4	45	16.8	5.6	5.6	333.0
36	7/16/80	0	29	0.0	0.0	0.0	333.0
36	7/16/80	0	31	95.2	3.2	3.2	336.2
36	7/16/80	0	33	134.9	7.7	7.7	340.6
36	7/16/80	0	37	31.7	9.8	9.8	342.8

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED PRECIPITATION STORM MM	DAY MM	YEAR MM
36	7/16/80	0	40	31.7	11.4	11.4	344.4
36	7/16/80	1	3	2.8	12.4	12.4	345.4
36	7/16/80	1	10	22.7	15.1	15.1	348.1
36	7/16/80	1	13	26.4	16.4	16.4	349.4
36	7/16/80	1	22	15.5	18.8	18.8	351.8
36	7/16/80	1	25	31.7	20.4	20.4	353.3
36	7/16/80	1	27	75.3	23.0	23.0	356.0
36	7/16/80	1	31	19.8	24.3	24.3	357.3
36	7/16/80	1	43	1.2	24.6	24.6	357.6
36	7/16/80	1	48	6.2	25.1	25.1	358.1
36	7/16/80	2	56	0.5	25.7	25.7	358.6
36	7/18/80			NO DATA	0.0	0.0	358.6
36	7/18/80			NO DATA	3.6	3.6	362.2
36	7/25/80			NO DATA	0.0	0.0	362.2
36	7/25/80			NO DATA	3.3	3.3	365.5
36	7/26/80	5	56	0.0	0.0	0.0	365.5
36	7/26/80	6	2	40.6	4.1	4.1	369.6
36	7/26/80	6	6	81.3	9.5	9.5	375.0
36	7/26/80	6	10	61.0	13.5	13.5	379.0
36	7/26/80	6	15	16.3	14.9	14.9	380.4
36	7/26/80	6	19	8.1	15.4	15.4	380.9
36	7/26/80	6	35	2.0	16.0	16.0	381.5
36	7/26/80	6	45	1.6	16.3	16.3	381.7
36	8/ 4/80			NO DATA	0.0	0.0	381.7
36	8/ 4/80			NO DATA	4.1	4.1	385.8
36	8/ 6/80	0	53	0.0	0.0	0.0	385.8
36	8/ 6/80	1	0	30.5	3.6	3.6	389.4
36	8/ 6/80	1	4	50.1	6.9	6.9	392.8
36	8/ 6/80	1	7	20.6	8.0	8.0	393.8
36	8/ 6/80	1	14	35.3	12.1	12.1	397.9
36	8/ 6/80	1	18	104.1	19.0	19.0	404.8
36	8/ 6/80	1	23	77.1	25.5	25.5	411.3
36	8/ 6/80	1	29	30.5	28.5	28.5	414.4
36	8/ 6/80	1	34	108.0	37.5	37.5	423.4
36	8/ 6/80	1	39	64.8	42.9	42.9	428.8
36	8/ 6/80	1	43	65.6	47.3	47.3	433.1
36	8/ 6/80	1	45	30.5	48.3	48.3	434.2
36	8/ 6/80	1	49	61.7	52.5	52.5	438.3
36	8/ 6/80	1	53	77.1	57.6	57.6	443.4
36	8/ 6/80	1	55	77.1	60.2	60.2	446.0
36	8/ 6/80	1	57	123.4	64.3	64.3	450.1
36	8/ 6/80	2	5	84.5	75.6	75.6	461.4
36	8/ 6/80	2	12	50.7	81.5	81.5	467.3
36	8/ 6/80	2	15	164.6	89.7	89.7	475.6
36	8/ 6/80	2	18	128.6	96.2	96.2	482.0
36	8/ 6/80	2	20	115.7	100.0	100.0	485.8
36	8/ 6/80	2	28	173.6	123.2	123.2	509.0

TABLE B1-12. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
36	8/ 6/80	2	33	15.4	124.5	124.5	519.3
36	8/ 8/80	6	56	0.0	0.0	0.0	510.3
36	8/ 8/80	7	12	3.2	0.9	0.9	511.1
36	8/ 8/80	7	20	2.2	1.2	1.2	511.4
36	8/ 8/80	7	22	34.6	2.3	2.3	512.6
36	8/ 8/80	7	26	30.3	4.3	4.3	514.6
36	8/ 8/80	7	55	1.8	5.2	5.2	515.5
36	8/ 8/80	7	58	17.3	6.1	6.1	516.3
36	8/ 8/80	8	5	2.5	6.3	6.3	516.6
36	8/ 9/80	2	36	0.0	0.0	0.0	516.6
36	8/ 9/80	3	36	1.0	1.0	1.0	517.6
36	8/ 9/80	3	46	3.0	1.5	1.5	518.1
36	8/ 9/80	4	6	3.0	2.5	2.5	519.1
36	8/ 9/80	5	6	1.0	3.5	3.5	520.1
36	8/ 9/80	5	36	5.0	6.0	6.0	522.6
36	8/ 9/80	5	51	5.0	7.2	7.2	523.8
36	8/ 9/80	6	36	5.3	11.2	11.2	527.8
36	8/ 9/80	6	56	3.0	12.2	12.2	528.8
36	8/ 9/80	8	6	0.6	13.0	13.0	529.6
36	8/10/80	1	35	0.0	0.0	0.0	529.6
36	8/10/80	1	43	32.0	4.3	4.3	533.8
36	8/10/80	1	53	16.0	6.9	6.9	536.5
36	8/10/80	1	57	8.0	7.5	7.5	537.0
36	8/10/80	2	0	26.7	8.8	8.8	538.4
36	8/10/80	2	5	6.4	9.3	9.3	538.9
36	8/10/80	2	8	21.3	10.4	10.4	540.0
36	8/10/80	2	15	4.6	10.9	10.9	540.5
36	8/10/80	2	21	19.7	12.8	12.8	542.4
36	8/10/80	2	26	6.4	13.3	13.3	542.9
36	8/10/80	2	33	9.1	14.4	14.4	544.0
36	8/10/80	4	15	0.2	14.7	14.7	544.2
36	8/10/80	4	19	16.0	15.7	15.7	545.3
36	8/10/80	4	27	2.0	16.0	16.0	545.6
36	8/10/80	4	30	5.3	16.3	16.3	545.8
36	8/10/80	4	35	9.6	17.1	17.1	546.6
36	8/10/80	5	9	0.5	17.3	17.3	546.9
36	8/10/80	5	15	8.0	18.1	18.1	547.7
36	8/10/80	5	30	2.1	18.7	18.7	548.2
36	8/10/80	5	58	1.1	19.2	19.2	548.8
36	8/10/80	7	20	0.8	20.3	20.3	549.8
36	8/10/80	7	37	4.7	21.6	21.6	551.2
36	8/11/80	3	14	0.0	0.0	0.0	551.2
36	8/11/80	3	29	3.1	0.8	0.8	551.9
36	8/11/80	3	34	15.6	2.1	2.1	553.2
36	8/11/80	4	6	5.4	4.9	4.9	556.1
36	8/11/80	4	24	3.5	6.0	6.0	557.1
36	8/11/80	4	29	71.7	11.9	11.9	563.1
36	8/11/80	4	33	27.3	13.8	13.8	564.9
36	8/11/80	4	35	77.5	16.4	16.4	567.5
36	8/11/80	4	45	17.1	19.2	19.2	570.4
36	8/11/80	5	4	5.7	21.0	21.0	572.2
36	8/11/80	5	36	1.5	22.1	22.1	573.2
36	8/11/80	6	4	1.7	22.9	22.9	574.0
36	8/16/80	4	0	0.0	0.0	0.0	574.0
36	8/16/80	4	30	0.5	0.3	0.3	574.3
36	8/16/80	4	50	2.2	1.3	1.3	575.3
36	8/16/80	5	9	5.5	3.2	3.2	577.2
36	8/16/80	5	20	4.4	4.0	4.0	578.0
36	8/16/80	5	40	5.6	5.9	5.9	579.9
36	8/16/80	6	0	1.6	6.4	6.4	580.4
36	8/16/80	6	10	3.2	6.9	6.9	580.9
36	8/16/80	6	33	3.5	8.3	8.3	582.3
36	8/16/80	7	0	3.6	9.9	9.9	583.9
36	8/16/80	8	20	3.6	14.9	14.9	588.9
36	8/16/80	8	30	1.6	15.2	15.2	589.2
36	8/16/80	8	50	8.0	17.9	17.9	591.9
36	8/16/80	9	0	1.6	18.1	18.1	592.1
36	8/16/80	9	18	4.4	19.5	19.5	593.5
36	8/16/80	9	30	5.3	21.3	21.3	595.3
36	8/16/80	9	53	7.6	24.2	24.2	598.3
36	8/16/80	10	2	14.2	26.4	26.4	600.4
36	8/16/80	10	16	5.7	27.7	27.7	601.7
36	8/16/80	10	25	37.3	33.3	33.3	607.3
36	8/16/80	10	45	11.2	37.0	37.0	611.0
36	8/16/80	11	5	4.0	38.4	38.4	612.4
36	8/16/80	11	8	42.6	40.5	40.5	614.5
36	8/16/80	11	14	10.7	41.6	41.6	615.6
36	8/16/80	11	33	5.9	43.4	43.4	617.4
36	8/16/80	11	43	2.2	44.0	44.0	618.0
36	8/16/80	12	2	5.0	45.6	45.6	619.6
36	8/16/80	12	8	42.6	49.8	49.8	623.8
36	8/16/80	12	14	8.0	50.6	50.6	624.6
36	8/16/80	12	29	2.1	51.2	51.2	625.2
36	8/16/80	12	47	4.4	52.5	52.5	626.5
36	8/16/80	13	2	5.3	53.8	53.8	627.8
36	8/16/80	13	13	2.5	54.4	54.4	628.4
36	8/17/80			NO DATA	0.0	0.0	628.4
36	8/17/80			NO DATA	2.5	2.5	630.9
36	8/19/80	2	45	0.0	0.0	0.0	630.9
36	8/19/80	2	50	84.8	7.1	7.1	638.0
36	8/19/80	2	58	9.8	8.4	8.4	639.3
36	8/19/80	3	1	5.2	8.6	8.6	639.5
36	8/30/80			NO DATA	0.0	0.0	639.5
36	8/30/80			NO DATA	2.5	2.5	642.1
36	8/31/80			NO DATA	0.0	0.0	642.1

TABLE B1-12. CONTINUED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
36	8/31/80			NO DATA	2.8	2.8	644.9
36	9/ 1/80	16	49	0.0	0.0	0.0	644.9
36	9/ 1/80	16	52	20.8	1.0	1.0	645.9
36	9/ 1/80	16	55	125.0	7.3	7.3	652.2
36	9/ 1/80	17	5	7.8	8.6	8.6	653.5
36	9/ 1/80	17	15	1.6	8.9	8.9	653.7
36	9/ 1/80	17	18	15.6	9.6	9.6	654.5
36	9/ 1/80	17	20	15.6	10.2	10.2	655.0
36	9/ 4/80	0	32	0.0	0.0	0.0	655.0
36	9/ 4/80	0	37	3.1	0.3	0.3	655.3
36	9/ 4/80	0	40	51.6	2.8	2.8	657.9
36	9/ 4/80	0	47	26.5	5.9	5.9	661.0
36	9/ 4/80	1	17	6.7	9.3	9.3	664.3
36	9/ 4/80	1	40	2.7	10.3	10.3	665.4
36	9/ 4/80	1	55	3.1	11.1	11.1	666.1
36	9/ 4/80	2	17	2.1	11.9	11.9	666.9
36	9/ 4/80	3	0	0.4	12.1	12.1	667.2
36	9/ 4/80	3	6	10.3	13.2	13.2	668.2
36	9/ 4/80	3	9	25.8	14.4	14.4	669.5
36	9/ 4/80	3	19	6.2	15.5	15.5	670.5
36	9/ 4/80	3	27	29.0	19.3	19.3	674.4
36	9/ 4/80	3	32	55.7	24.0	24.0	679.0
36	9/ 4/80	3	35	41.3	26.1	26.1	681.1
36	9/ 4/80	3	40	18.6	27.6	27.6	682.6
36	9/ 4/80	3	50	3.1	28.1	28.1	683.2
36	9/ 4/80	3	56	12.9	29.4	29.4	684.4
36	9/ 4/80	4	1	37.1	32.5	32.5	687.5
36	9/ 4/80	4	10	3.4	33.0	33.0	688.1
36	9/ 6/80	13	17	0.0	0.0	0.0	688.1
36	9/ 6/80	13	20	39.6	2.0	2.0	690.0
36	9/ 6/80	13	26	74.3	9.4	9.4	697.5
36	9/ 6/80	13	28	156.1	14.6	14.6	702.7
36	9/ 6/80	13	31	74.3	18.3	18.3	706.4
36	9/ 6/80	13	47	7.4	20.3	20.3	708.4
36	9/ 9/80	1	4	0.0	0.0	0.0	708.4
36	9/ 9/80	1	8	9.1	0.6	0.6	709.0
36	9/ 9/80	1	10	81.6	3.3	3.3	711.7
36	9/ 9/80	1	13	24.2	4.5	4.5	712.9
36	9/ 9/80	1	18	10.9	5.4	5.4	713.8
36	9/ 9/80	1	25	2.6	5.7	5.7	714.1
36	9/ 9/80	1	30	7.3	6.3	6.3	714.7
36	9/12/80	18	10	0.0	0.0	0.0	714.7
36	9/12/80	18	19	6.5	1.0	1.0	715.7
36	9/12/80	18	28	15.1	3.2	3.2	718.0
36	9/12/80	18	31	32.5	4.9	4.9	719.6
36	9/12/80	18	40	6.5	5.8	5.8	720.5
36	9/13/80			NO DATA	0.0	0.0	720.6
36	9/13/80			NO DATA	4.6	4.6	725.1
36	9/20/80	3	32	0.0	0.0	0.0	725.1
36	9/20/80	3	40	27.5	3.7	3.7	728.8
36	9/20/80	4	8	2.2	4.7	4.7	729.8
36	9/20/80	4	15	15.7	6.5	6.5	731.7
36	9/20/80	4	18	26.1	7.8	7.8	733.0
36	9/20/80	4	27	7.0	8.9	8.9	734.0
36	9/21/80	20	45	0.0	0.0	0.0	734.0
36	9/21/80	20	51	12.7	1.3	1.3	735.3
36	9/21/80	21	2	1.4	1.5	1.5	735.5
36	9/21/80	21	9	26.1	4.6	4.6	738.6
36	9/21/80	21	11	45.7	6.1	6.1	740.1
36	9/21/80	21	13	30.5	7.1	7.1	741.1
36	9/21/80	21	15	38.1	8.4	8.4	742.4
36	9/21/80	21	19	26.7	10.2	10.2	744.2
36	10/15/80			NO DATA	0.0	0.0	744.2
36	10/15/80			NO DATA	1.3	1.3	745.5
36	10/16/80	19	30	0.0	0.0	0.0	745.5
36	10/16/80	24	0	0.2	0.7	0.7	746.2
36	10/17/80	4	35	0.1	1.2	0.5	746.7
36	10/17/80	4	40	6.0	1.7	1.0	747.2
36	10/17/80	5	33	0.0	1.7	1.0	747.2
36	10/17/80	9	59	0.2	2.7	2.0	748.2
36	10/17/80	10	5	5.0	3.2	2.5	748.7
36	10/17/80	10	44	0.4	3.5	2.7	748.9
36	10/17/80	10	52	27.9	7.2	6.4	752.6
36	10/17/80	11	0	1.5	7.4	6.7	752.9
36	10/17/80	11	2	29.8	8.4	7.7	753.9
36	10/17/80	11	13	1.4	8.7	7.9	754.1
36	10/17/80	11	30	2.6	9.4	8.7	754.9
36	10/17/80	12	0	1.0	9.9	9.2	755.4
36	10/17/80	14	0	0.2	10.4	9.7	755.9
36	10/17/80	22	2	0.0	0.0	9.7	755.9
36	10/17/80	22	6	10.9	0.7	10.4	756.6
36	10/17/80	22	8	58.4	2.7	12.3	758.5
36	10/17/80	22	10	14.6	3.2	12.8	759.0
36	10/17/80	22	11	102.2	4.9	14.5	760.7
36	10/17/80	22	21	2.9	5.4	15.0	761.2
36	10/17/80	22	30	8.1	6.6	16.2	762.4
36	10/17/80	22	35	2.9	6.8	16.5	762.7
36	10/17/80	22	38	73.0	10.5	20.1	766.3
36	10/17/80	22	50	4.9	11.4	21.1	767.3
36	10/23/80	19	15	0.0	0.0	0.0	767.3
36	10/23/80	20	14	1.5	1.5	1.5	768.8
36	10/23/80	20	19	12.2	2.5	2.5	769.8

TABLE B1-12. CONCLUDED

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM
36	10/23/80	20	29	4.6	3.3	3.3	779.6
36	10/23/80	20	32	20.3	4.3	4.3	771.6
36	10/23/80	20	45	2.3	4.8	4.8	772.1
36	10/23/80	20	53	7.6	5.8	5.8	773.1
36	10/23/80	21	19	1.2	6.3	6.3	773.6
36	10/23/80	21	33	9.8	8.6	8.6	775.9
36	10/23/80	21	45	2.5	9.1	9.1	776.4
36	10/23/80	21	55	9.1	10.7	10.7	778.0
36	10/23/80	22	15	3.0	11.7	11.7	779.0
36	10/23/80	22	35	5.3	13.5	13.5	780.8
36	10/23/80	23	14	3.5	15.7	15.7	783.0
36	10/23/80	23	33	2.4	16.5	16.5	783.8
36	10/23/80	24	0	3.4	18.0	18.0	785.3
36	10/24/80	0	24	3.2	19.3	1.3	786.6
36	10/24/80	1	10	2.7	21.3	3.3	788.6
36	10/24/80	2	0	3.7	24.4	6.3	791.7
36	10/24/80	2	55	4.4	28.4	10.4	795.7
36	10/24/80	3	48	3.7	31.7	13.7	799.0
36	10/24/80	4	10	2.8	32.8	14.7	800.1
36	10/24/80	5	10	0.5	33.3	15.2	800.6
36	10/24/80	5	30	3.0	34.3	16.3	801.6
36	10/27/80			NO DATA	0.0	0.0	801.6
36	10/27/80			NO DATA	1.3	1.3	802.9

GAGE	DATE	HOUR	MIN	PRECIP INTENSITY MM/H	ACCUMULATED STORM MM	PRECIPITATION DAY MM	PRECIPITATION YEAR MM

TABLE B2- 1. WEATHER DATA AT ISU WEATHER STATION NEAR FOUR MILE CREEK WATERSHED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
12/31/78	1/12/79			1535				3.3	
1/12/79	1/31/79			2550				32.8	
1/31/79	2/13/79			3414				4.6	
2/13/79	2/22/79			2095				3.6	
2/22/79	2/28/79			1926					
2/28/79	3/ 1/79			109					
3/ 1/79	3/ 2/79			180					
3/ 2/79	3/ 3/79							25.9	
3/ 3/79	3/ 4/79			143				4.1	
3/ 4/79	3/ 5/79			447					
3/ 5/79	3/ 6/79			203				0.3	
3/ 6/79	3/ 7/79			173					
3/ 7/79	3/ 8/79			220					
3/ 8/79	3/ 9/79			375					
3/ 9/79	3/10/79			420					
3/10/79	3/11/79			466					
3/11/79	3/12/79			523					
3/12/79	3/13/79			371					
3/13/79	3/14/79			393					
3/14/79	3/15/79			514					
3/15/79	3/16/79			500					
3/16/78	3/17/79			109					
3/17/79	3/18/79			177				9.7	
3/18/79	3/19/79			226					
3/19/79	3/20/79			111					
3/20/79	3/21/79			217					
3/21/79	3/22/79			138					
3/22/79	3/23/79			26				17.8	
3/23/79	3/24/79			235				11.7	
3/24/79	3/25/79			591					
3/25/79	3/26/79			356					
3/26/79	3/27/79			594					
3/27/79	3/28/79			144				12.2	
3/28/79	3/29/79			51				10.2	
3/29/79	3/30/79			108					
3/30/79	3/31/79			120					
3/31/79	4/ 1/79			90				23.4	
4/ 1/79	4/ 2/79								
4/ 2/79	4/ 3/79								
4/ 3/79	4/ 4/79								
4/ 4/79	4/ 5/79			1847		70			
4/ 5/79	4/ 6/79	5.6	-10.0	616		53			
4/ 6/79	4/ 7/79	12.2	-1.7	571		70			
4/ 7/79	4/ 8/79	10.0	-0.6	83		99			
4/ 8/79	4/ 9/79	4.4	-2.2	477		76			
4/ 9/79	4/10/79	5.6	-3.9	198		70		5.1	

THE INSTRUMENTS WERE READ AT APPROXIMATELY 6:00 P.M. EACH DAY. THE MAXIMUM AND MINIMUM TEMPERATURES WERE ADJUSTED FOR EACH CALENDAR DAY AND ARE ASSOCIATED WITH THE ENDING DATE.

TABLE B2- 1. CONTINUED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
4/10/79	4/11/79	6.1	0.6	64		100			
4/11/79	4/12/79	17.8	6.7	417		82			
4/12/79	4/13/79	12.8	0.6	420		59			
4/13/79	4/14/79	12.2	0.0	603	245.3	69	4.1		4.1
4/14/79	4/15/79	15.6	-2.2	659	79.0	53	2.8		2.8
4/15/79	4/16/79	17.8	3.3	522	55.0	48	2.8		2.8
4/16/79	4/17/79	20.0	3.3	587	99.3	62	6.3		6.3
4/17/79	4/18/79	19.4	7.2	580	234.2	53	7.4		7.4
4/18/79	4/19/79	12.2	7.8	85	190.2	97	-47.5	20.3	-27.2
4/19/79	4/20/79	15.6	10.0	75	180.4	100	-2.8	38.6	35.8
4/20/79	4/21/79	16.7	4.4	656	106.7	56	3.0		3.0
4/12/79	4/22/79	22.2	6.7	699	99.9	87	3.3		3.3
4/22/79	4/23/79	20.6	7.2	554	74.2	88	6.1		6.1
4/23/79	4/24/79	16.7	10.0	87	97.4	99	2.0		2.0
4/24/79	4/25/79	15.6	4.4	66	71.1	99	-14.5	17.8	3.3
4/25/79	4/26/79	13.3	2.2	685	147.3	55	2.3		2.3
4/26/79	4/27/79	8.9	1.1	336	185.7	58	3.6		3.6
4/27/79	4/28/79	12.8	-0.6	563	99.1	49	2.8		2.8
4/28/79	4/29/79	7.8	1.7	118	45.5	80	-1.8	2.0	0.2
4/29/79	4/30/79	9.4	0.0	413	328.6	64	2.5		2.5
4/30/79	5/ 1/79	16.7	0.0	367	132.0	73	3.0		3.0
5/ 1/79	5/ 2/79	11.7	7.8	136	116.0	99	-23.9	24.3	0.4
5/ 2/79	5/ 3/79	12.2	2.2	681	183.3	55	3.0	1.4	4.4
5/ 3/79	5/ 4/79	15.0	0.6	727	71.5	60	5.1		5.1
5/ 4/79	5/ 5/79	20.0	4.4	467	274.7	50	6.1		6.1
5/ 5/79	5/ 6/79	25.6	10.6	576	302.9	52	8.6		8.6
5/ 6/79	5/ 7/79	23.3	13.9	350	339.1	86	5.1		5.1
5/ 7/79	5/ 8/79	26.7	15.6	410	182.0	65	-1.8	5.6	3.8
5/ 8/79	5/ 9/79	29.4	11.7	590	270.7	83	8.9		8.9
5/ 9/79	5/10/79	28.3	7.8	433	141.5	90	-1.5	9.4	7.9
5/10/79	5/11/79	8.9	4.4	214	314.0	74	3.3		3.3
5/11/79	5/12/79	16.7	0.6	669	30.9	56	2.0	2.0	4.0
5/12/79	5/13/79	20.6	6.1	622	170.6	48	2.8	1.3	4.1
5/13/79	5/14/79	21.1	7.8	537	58.7	53	2.3		2.3
5/14/79	5/15/79	20.6	4.4	792	81.8	57	7.4		7.4
5/15/79	5/16/79	22.2	6.1	473	183.1	48	6.6		6.6
5/16/79	5/17/7	28.9	15.0	639	371.6	49	7.1		7.1
5/17/79	5/18/79	25.6	16.7	233	238.0	88	1.0	1.3	2.3
5/18/79	5/19/79	21.1	9.4	749	135.2	56	-2.0	8.4	6.4
5/19/79	5/20/79	20.0	11.1	664	59.4	55	4.8		4.8
5/20/79	5/21/79	18.9	4.4	749	69.8	48	5.6		5.6
5/21/79	5/22/79	24.4	7.8	471	178.5	61	5.6		5.6
5/22/79	5/23/79	16.7	6.1	553	245.9	53	4.6		4.6
5/23/79	5/24/79	19.4	4.4	597	22.2	48	5.1		5.1
5/24/79	5/25/79	21.7	3.9	784	72.7	46	7.9		7.9

TABLE B2- 1. CONTINUED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
5/25/79	5/26/79	17.8	9.4	380	30.4	68	1.0	6.6	7.6
5/26/79	5/27/79	23.3	7.2	722	64.1	46	-3.0	3.6	0.6
5/27/79	5/28/79	26.7	10.6	731	101.2	46	7.9		7.9
5/28/79	5/29/79	28.3	14.4	602	130.4	60	-3.3	7.6	4.3
5/29/79	5/30/79	28.9	16.1	694	180.6	53	10.4	0.3	10.7
5/30/79	5/31/79	15.6	7.8	217	97.0	75	1.8		1.8
5/31/79	6/ 1/79	23.3	6.1	665	80.5	50	6.9		6.9
6/ 1/79	6/ 2/79	27.2	11.7	756	128.1	45	7.9		7.9
6/ 2/79	6/ 3/79	28.9	13.3	630	99.5	47	7.6		7.6
6/ 3/79	6/ 4/79	28.9	17.8	507	288.2	68	6.9	0.8	7.7
6/ 4/79	6/ 5/79	26.7	14.4	673	97.8	57	-21.1	37.6	16.5
6/ 5/79	6/ 6/79	29.4	16.7	739	158.4	54	7.1		7.1
6/ 6/79	6/ 7/79	28.9	18.9	407	282.8	73	4.6	1.3	5.9
6/ 7/79	6/ 8/79	18.9	13.9	183	45.2	90	-2.3	5.1	2.8
6/ 8/79	6/ 9/79	23.3	13.9	181	92.9	93	-10.9	12.7	1.8
6/ 9/79	6/10/79	22.8	11.1	601	125.2	56	3.6		3.6
6/10/79	6/11/79	28.3	11.7	692	316.1	48	6.9		6.9
6/11/79	6/12/79	30.0	16.7	639	90.0	57	6.9	4.7	11.6
6/12/79	6/13/79	26.7	14.4		68.7	72	-19.3	25.8	6.5
6/13/79	6/14/79	28.9	17.2	649	185.4	61	6.3		6.3
6/14/79	6/15/79	30.0	20.0	639	192.0	60	5.1		5.1
6/15/79	6/16/79	29.4	15.6	390	307.7	60	8.9		8.9
6/16/79	6/17/79	22.2	14.4	418	141.3	66	5.6		5.6
6/17/79	6/18/79	17.8	13.3	160	108.8	92	-11.2	15.7	4.5
6/18/79	6/19/79	30.0	15.0	530	193.8	62	3.8		3.8
6/19/79	6/20/79	26.7	16.7	666	327.7	60	-2.0	11.4	9.4
6/20/79	6/21/79	30.0	15.6	723	212.8	47	8.1		8.1
6/21/79	6/22/79	25.6	11.7	724	101.9	57	6.6		6.6
6/22/79	6/23/79	16.7	10.0	184	100.6	78	3.3		3.3
6/23/79	6/24/79	24.4	8.9	686	22.0	48	2.5		2.5
6/24/79	6/25/79	26.7	10.6	764	79.8	50	8.4		8.4
6/25/79	6/26/79	28.9	14.4	687	151.6	53	4.6		4.6
6/26/79	6/27/79	28.3	15.6	462	161.9	61	-22.9	47.5	24.6
6/27/79	6/28/79	27.2	17.8	414	71.1	77	0.8	3.0	3.8
6/28/79	6/29/79	25.6	16.1	458	168.3	56	4.8		4.8
6/29/79	6/30/79	28.9	14.4	731	73.2	47	5.8		5.8
6/30/79	7/ 1/79	31.7	15.6	653	27.2	46	5.6		5.6
7/ 1/79	7/ 2/79	31.7	16.7	693	60.7	48	8.6		8.6
7/ 2/79	7/ 3/79	29.4	20.0	573	161.7	77	-24.9	96.8	71.9
7/ 3/79	7/ 4/79	24.4	17.8	504	151.3	50	-3.3	11.4	8.1
7/ 4/79	7/ 5/79	18.3	14.4	596	30.1	47	4.8		4.8
7/ 5/79	7/ 6/79	17.2	12.2	506	26.6	49	4.8		4.8
7/ 6/79	7/ 7/79	26.7	13.9	622	57.0	48	5.6		5.6
7/ 7/79	7/ 8/79	29.4	16.1	639	38.0	50	5.6		5.6
7/ 8/79	7/ 9/79	30.6	14.4	661	17.4	49	4.8		4.8

TABLE B2- 1. CONTINUED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
7/ 9/79	7/10/79	30.0	17.8	598	51.8	62	6.6		6.6
7/10/79	7/11/79	31.1	19.4	632	41.8	60	-3.0	8.4	5.4
7/11/79	7/12/79	32.2	18.3	656	47.2	55	6.6		6.6
7/12/79	7/13/79	28.9	16.7	378	102.7	74	-0.3	5.0	4.7
7/13/79	7/14/79	27.8	18.3	606	96.4	54	-57.7	76.0	18.3
7/14/79	7/15/79	28.3	21.1	753	35.7	50	10.2		10.2
7/15/79	7/16/79	28.9	15.6	636	56.8	53	5.3		5.3
7/16/79	7/17/79	26.7	16.1	653	133.7	54	7.6		7.6
7/17/79	7/18/79	26.1	12.8	611	15.4	47	4.6		4.6
7/18/79	7/19/79	26.7	13.9	683	47.5	50	5.6	1.3	6.9
7/19/79	7/20/79	29.4	16.7	643	24.6	54	4.6		4.6
7/20/79	7/21/79	30.0	17.2	703	80.5	56	5.8		5.8
7/21/79	7/22/79	31.1	19.4	649	19.6	58	7.4		7.4
7/22/79	7/23/79	30.0	20.0	554	268.8	59	6.1		6.1
7/23/79	7/24/79	28.9	20.6	441	12.4	96	4.1	1.0	5.1
7/24/79	7/25/79	28.9	20.0	235	11.9	59	0.8		0.8
7/25/79	7/26/79	30.0	15.0	619	33.8	54	4.1		4.1
7/26/79	7/27/79	30.0	17.2	572	11.3	78	4.8		4.8
7/27/79	7/28/79	28.9	17.8	507	58.7	70	3.6		3.6
7/28/79	7/29/79	28.9	21.1	325	62.0	84	2.3		2.3
7/29/79	7/30/79	29.4	17.8		124.4	64	-6.6	12.2	5.6
7/30/79	7/31/79	25.6	17.2	282	27.4	67	3.8		3.8
7/31/79	8/ 1/79	27.2	16.7	521	26.9	57	-1.8	8.1	6.3
8/ 1/79	8/ 2/79	28.3	16.7	565	104.0	73	5.8		5.8
8/ 2/79	8/ 3/79	31.7	17.2	513	72.6	63	3.8		3.8
8/ 3/79	8/ 4/79	33.3	20.6	568	130.4	56	6.3		6.3
8/ 4/79	8/ 5/79	32.8	23.9	616	126.8	63	3.3		3.3
8/ 5/79	8/ 6/79	33.9	22.8	605	82.2	56	3.3		3.3
8/ 6/79	8/ 7/79	33.9	23.9	680	40.6	63	10.4		10.4
8/ 7/79	8/ 8/79	33.3	21.1	428	211.5	73	5.1		5.1
8/ 8/79	8/ 9/79	32.8	18.3	530	11.7	62	-22.4	31.2	8.8
8/ 9/79	8/10/79	21.1	14.4	392	221.3	70	2.8	7.6	10.4
8/10/79	8/11/79	23.9	10.6		48.3	51	4.3		4.3
8/11/79	8/12/79	23.3	11.1	598	100.7	56	2.8		2.8
8/12/79	8/13/79	20.0	16.7	162	137.8	77	4.6	0.8	5.4
8/13/79	8/14/79	19.4	10.6	453	103.2	56	1.0		1.0
8/14/79	8/15/79	21.1	7.2	621	44.7	61	3.3		3.3
8/15/79	8/16/79	22.8	13.9	452	87.4	59	4.8		4.8
8/16/79	8/17/79	32.2	17.8	439	96.9	62	2.5		2.5
8/17/79	8/18/79	31.1	21.1	538	42.0	59	4.1		4.1
8/18/79	8/19/79	27.8	18.3	453	82.7	81	-32.5	43.9	11.4
8/19/79	8/20/79	29.4	19.4	640	117.8	68	-18.5	30.0	11.5
8/20/79	8/21/79	29.4	18.9	203	80.1	86	4.8		4.8
8/21/79	8/22/79	24.4	17.2	310	34.3	85		35.6	
8/22/79	8/23/79	22.2	11.7	549	110.9	56	-2.3	11.4	9.1
8/23/79	8/24/79	23.3	16.7	598	77.1	57	4.6		4.6

TABLE B2- 1. CONTINUED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
8/24/79	8/25/79	27.2	17.2	461	28.5	71	3.3		3.3
8/25/79	8/26/79	25.6	19.4	465	64.1	74	4.8		4.8
8/26/79	8/27/79	22.8	16.1	381	31.9	62	-3.3	6.3	3.0
8/27/79	8/28/79	27.2	17.2	547	78.4	64	5.6	1.3	6.9
8/28/79	8/29/79	27.2	15.6	616	93.3	57	5.6		5.6
8/29/79	8/30/79	30.0	18.3	571	45.7	57	5.3		5.3
8/30/79	8/31/79	29.4	20.6	555	101.5	82	1.8		1.8
8/31/79	9/ 1/79	28.9	17.8	352	114.1	72	6.1		6.1
9/ 1/79	9/ 2/79	28.9	23.9	589	114.4	56	4.8		4.8
9/ 2/79	9/ 3/79	28.9	20.6	527	96.2	57	4.1		4.1
9/ 3/79	9/ 4/79	30.0	20.6	571	108.3	65	6.1		6.1
9/ 4/79	9/ 5/79	30.0	17.2	546	87.9	64	4.8		4.8
9/ 5/79	9/ 6/79	30.0	17.2	589	93.2	49	-2.8	9.7	6.9
9/ 6/79	9/ 7/79	24.4	7.8	588	49.1	53	4.6		4.6
9/ 7/79	9/ 8/79	23.3	10.0	508	75.8	55	4.6		4.6
9/ 8/79	9/ 9/79	28.9	13.3	554	197.9	57	6.9		6.9
9/ 9/79	9/10/79	30.6	20.0	517	209.4	52	8.6		8.6
9/10/79	9/11/79	30.0	23.3	545	91.6	53	5.6		5.6
9/11/79	9/12/79	30.0	20.0	353	42.3	84	2.5		2.5
9/12/79	9/13/79	19.4	10.6	391	68.9	50	2.8		2.8
9/13/79	9/14/79	18.3	6.7	386	54.4	50	3.6		3.6
9/14/79	9/15/79	22.2	5.6	568	66.3	48	2.8		2.8
9/15/79	9/16/79	24.4	10.0	547	110.7	47	4.3		4.3
9/16/79	9/17/79	25.6	10.0	545	145.6	47	8.1		8.1
9/17/79	9/18/79	25.6	10.0	521	47.2	47	4.6		4.6
9/18/79	9/19/79	23.9	6.7	524	126.3	49	4.3		4.3
9/19/79	9/20/79	26.7	10.6		126.2	49	4.6		4.6
9/20/79	9/21/79	25.6	5.6	500	112.0	47	5.8		5.8
9/21/79	9/22/79	21.1	3.3	530	33.3	47	3.3		3.3
9/22/79	9/23/79	17.8	6.1	436	115.2	56	5.3		5.3
9/23/79	9/24/79	23.3	14.4	246	80.5	95	-9.7	10.2	0.5
9/24/79	9/25/79	-17.8	-17.8	492	64.9		5.6		5.6
9/25/79	9/26/79	27.8	10.0	484	64.9	65	5.6		5.6
9/26/79	9/27/79	26.7	13.9	423	157.7	53	5.1		5.1
9/27/79	9/28/79	28.9	20.6	400	72.1	49	3.6		3.6
9/28/79	9/29/79	27.2	16.1	314	42.3	56	3.3		3.3
9/29/79	9/30/79	26.1	6.7	453	13.0	45	3.0		3.0
9/30/79	10/ 1/79	18.3	11.1	148	98.2	67	-3.8	7.4	3.6
10/ 1/79	10/ 2/79	19.4	13.3	458	76.0	47	1.8		1.8
10/ 2/79	10/ 3/79	20.6	6.1	427	126.5	73	3.3	3.3	6.6
10/ 3/79	10/ 4/79	19.4	2.8	232	126.3	71	2.5		2.5
10/ 4/79	10/ 5/79	16.7	0.0	325	100.4	48	1.8		1.8
10/ 5/79	10/ 6/79	21.1	3.9	447	227.6	69	4.1		4.1
10/ 6/79	10/ 7/79	21.7	1.1	399	85.9	46	3.0		3.0
10/ 7/79	10/ 8/79	21.1	7.2	413	81.8	53	3.6		3.6
10/ 8/79	10/ 9/79	13.3	2.2	437	114.7	48	4.6		4.6

TABLE B2- 1. CONCLUDED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
10/ 9/79	10/10/79	13.3	0.0	155	21.4	50	2.8		2.8
10/10/79	10/11/79	16.7	6.1	402	155.0	51	2.3	2.5	4.8
10/11/79	10/12/79	15.6	0.0	392	269.9	51	1.8		1.8
10/12/79	10/13/79	10.6	-3.3	426	119.6	50	1.8		1.8
10/13/79	10/14/79	17.2	-3.3	388	120.2	47	2.5		2.5
10/14/79	10/15/79	15.6	10.0	290	199.6	47	4.8		4.8
10/15/79	10/16/79	22.8	10.0	273	14.0	68	2.5		2.5
10/16/79	10/17/79	22.8	8.9	333	27.0	51	2.0		2.0
10/17/79	10/18/79	22.8	10.0	98	83.5	85	2.3		2.3
10/18/79	10/19/79	21.1	13.9	248	187.3	77	-11.2	13.2	2.0
10/19/79	10/20/79	26.1	17.2	207	292.6	61	3.0		3.0
10/20/79	10/21/79	26.7	15.0	173	189.4	71	2.5		2.5
10/21/79	10/22/79	2.2	0.0	62	221.1	98	-71.9	85.0	13.1
10/22/79	10/23/79	3.9	0.6	85	290.5	76	0.8	4.2	5.0
10/23/79	10/24/79	12.2	-2.2	315	76.0	54	0.3		0.3
10/24/79	10/25/79	11.1	0.6	364	130.0	63	1.5		1.5
10/25/79	10/26/79	10.6	0.0	288	76.1	67	2.3		2.3
10/26/79	10/27/79	17.2	6.1	302	256.4	57	2.8		2.8
10/27/79	10/28/79	20.0	3.3	333	252.3	54	3.0		3.0
10/28/79	10/29/79	20.0	5.6		20.8	54	3.3		3.3
10/29/79	10/30/79	20.0	8.9		354.7	68	4.3		4.3
10/30/79	10/31/79	13.9	9.4		160.0	75	-7.4	11.4	4.0
10/31/79	11/ 1/79	3.3	1.7		413.6	69	1.3		1.3
11/ 1/79	11/ 2/79	10.6	-3.3		225.0	65	3.6		3.6
11/ 2/79	11/ 3/79	6.7	-3.3		26.4	65	2.5		2.5
11/ 3/79	11/ 4/79	14.4	-1.1		269.2	54	2.8		2.8
11/ 4/79	11/ 5/79	7.2	3.9		47.8	100	-8.6	8.0	-0.6
11/ 5/79	11/ 6/79	3.3	-1.1		167.7	73	-1.3	2.4	1.1
11/ 6/79	11/ 7/79	2.8	-3.9		155.3	81	0.8		0.8
11/ 7/79	11/ 8/79	3.3	-5.0		133.3	72	2.5		2.5
11/ 8/79	11/ 9/79	0.0	-3.3		54.7	97		1.0	
11/ 9/79	11/10/79	0.0	-11.1		104.6	69			
11/10/79	11/11/79	0.7	-4.4		229.0	64			
11/11/79	11/12/79	2.2	-1.1		143.6	95		2.0	
11/12/79	11/13/79	3.3	-10.0		48.8	84			
11/13/79	11/14/79	5.6	0.6		33.0	92			
11/14/79	11/15/79	11.1	0.0		207.6	89			

TABLE B2- 2. WEATHER DATA AT ISU WEATHER STATION NEAR FOUR MILE CREEK WATERSHED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
4/ 2/80	4/ 3/80	8.9	3.3		209.5	98	-10.7	15.2	4.5
4/ 3/80	4/ 4/80	12.2	0.6		163.0	50	1.0		1.0
4/ 4/80	4/ 5/80	17.8	1.1		195.4	47	4.1		4.1
4/ 5/80	4/ 6/80	17.2	2.2		34.8	61	0.0	3.6	3.6
4/ 6/80	4/ 7/80	18.9	7.8		163.8	52	4.6		4.6
4/ 7/80	4/ 8/80	15.6	3.3		624.9	96	4.1	1.3	5.4
4/ 8/80	4/ 9/80	2.8	-0.6	133	250.9	87	-3.3		-3.3
4/ 9/80	4/10/80	4.4	3.3	136	377.1	77	0.8		0.8
4/10/80	4/11/80	5.6	-3.3	218	35.4	70	0.5		0.5
4/11/80	4/12/80	9.4	-0.6	557	162.1	52	4.1		4.1
4/12/80	4/13/80	3.3	-3.3	264	174.8	64	1.8		1.8
4/13/80	4/14/80	4.4	-2.2	226	240.4	71	1.8		1.8
4/14/80	4/15/80	15.0	0.0	604	215.2	47	2.8		2.8
4/15/80	4/16/80	18.9	0.0	563	87.5	47	5.1		5.1
4/16/80	4/17/80	18.9	6.7	495	116.7	49	4.1		4.1
4/17/80	4/18/80	22.8	6.7	582	119.4	46	5.1		5.1
4/18/80	4/19/80	26.1	6.7	563	225.6	46	7.4		7.4
4/19/80	4/20/80	29.4	8.3	620	48.9	44	5.8		5.8
4/20/80	4/21/80	33.3	11.7	601	180.9	44	10.2		10.2
4/21/80	4/22/80	35.6	17.8	595	400.1	43	16.5		16.5
4/22/80	4/23/80	18.9	5.0	558	201.2	45	10.9		10.9
4/23/80	4/24/80	14.4	0.6	625	179.9	47	3.0		3.0
4/24/80	4/25/80	14.4	0.0	375	77.4	56	6.6		6.6
4/25/80	4/26/80	17.8	0.0	562	109.4	48	3.8		3.8
4/26/80	4/27/80	21.7	5.6	543	65.5	46	5.6		5.6
4/27/80	4/28/80	21.1	2.8	536	214.0	47	6.1		6.1
4/28/80	4/29/80	18.9	3.9	275	131.6	60	4.3		4.3
4/29/80	4/30/80	18.9	7.8	337	126.8	53	3.3		3.3
4/30/80	5/ 1/80	24.4	7.8	439	48.8	48	4.1		4.1
5/ 1/80	5/ 2/80	26.7	7.2	599	70.7	45	7.4		7.4
5/ 2/80	5/ 3/80	27.8	10.0	483	110.9	46	5.6		5.6
5/ 3/80	5/ 4/80	31.1	10.6	547	67.6	44	6.6		6.6
5/ 4/80	5/ 5/80	31.7	10.6	514	141.5	43	16.0		16.0
5/ 5/80	5/ 6/80	23.3	5.6	575	192.5	44	6.9		6.9
5/ 6/80	5/ 7/80	13.9	0.0	479	114.9	46	5.6		5.6
5/ 7/80	5/ 8/80	16.1	3.3	628	95.1	46	4.8		4.8
5/ 8/80	5/ 9/80	21.7	0.6	678	144.5	45		0.3	
5/ 9/80	5/10/80	20.6	10.0	305	294.5	78	2.0	5.1	7.1
5/10/80	5/11/80	14.4	2.8	286	76.0	61	2.0		2.0
5/11/80	5/12/80	20.6	5.0	487	77.6	47	5.1	1.3	6.4
5/12/80	5/13/80	16.7	4.4	287	51.7	51	1.5		1.5
5/13/80	5/14/80	21.1	3.9	483	186.0	30	1.3	3.3	4.6
5/14/80	5/15/80	20.6	8.9	631	87.4	46	4.1		4.1
5/15/80	5/16/80	14.4	10.0	174	116.2	83	1.0	3.0	4.0
5/16/80	5/17/80	14.4	10.0	123	79.3	90	-3.6	3.3	-0.3
5/17/80	5/18/80	14.4	12.2	91	155.9	90	-3.0	4.3	1.3

THE INSTRUMENTS WERE READ AT APPROXIMATELY 6:00 P.M. EACH DAY. THE MAXIMUM AND MINIMUM TEMPERATURES WERE ADJUSTED FOR EACH CALENDAR DAY AND ARE ASSOCIATED WITH THE ENDING DATE.

TABLE B2- 2. CONTINUED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
5/18/80	5/19/80	23.0	11.1	341	29.1	68	1.5		1.5
5/19/80	5/20/80	23.3	10.0	415	31.2	75	3.3		3.3
5/20/80	5/21/80	27.8	9.4	601	16.7	46	2.8		2.8
5/21/80	5/22/80	28.9	12.8	661	54.2	45	7.9		7.9
5/22/80	5/23/80	25.6	12.2	410	65.7	50	6.9		6.9
5/23/80	5/24/80	27.8	13.9	497	48.1	52	6.3		6.3
5/24/80	5/25/80	30.0	14.4	561	78.9	47	6.3		6.3
5/25/80	5/26/80	23.9	15.0	515	112.2	48	8.4		8.4
5/26/80	5/27/80	33.3	17.2	652	147.4	49	10.9		10.9
5/27/80	5/28/80	30.6	17.8	473	109.8	49	-4.6	11.9	7.3
5/28/80	5/29/80	27.8	16.7	349	174.5	69	-27.9	41.4	13.5
5/29/80	5/30/80	23.3	12.2	424	284.4	87	-8.6	16.5	7.9
5/30/80	5/31/80	23.9	13.3	465	70.5	64	2.5		2.5
5/31/80	6/ 1/80	25.6	15.0	414	118.3	66	-2.0	7.4	5.4
6/ 1/80	6/ 2/80	23.3	13.9	397	92.5	98	-11.7	33.7	22.0
6/ 2/80	6/ 3/80	25.6	13.3	646	66.8	53	-12.2	3.6	-8.6
6/ 3/80	6/ 4/80	23.3	16.7	539	171.9	78	3.3	5.1	8.4
6/ 4/80	6/ 5/80	31.7	17.2	568	255.1	65	6.1		6.1
6/ 5/80	6/ 6/80	31.7	21.1	319	191.8	59	4.6		4.6
6/ 6/80	6/ 7/80	28.3	21.1	510	93.3	66	-6.9	16.0	9.1
6/ 7/80	6/ 8/80	23.9	15.6	676	77.4	46	8.6		8.6
6/ 8/80	6/ 9/80	27.8	20.0	682	216.6	45	10.4		10.4
6/ 9/80	6/10/80	26.1	12.2	795	147.3	46	10.2		10.2
6/10/80	6/11/80	26.7	8.9	619	61.3	46	6.1		6.1
6/11/80	6/12/80	27.8	14.4	608	351.6	49	8.9	1.3	10.2
6/12/80	6/13/80	31.1	18.9	551	118.8	68	6.9	3.8	10.7
6/13/80	6/14/80	29.4	17.2	536	186.5	71	-21.6	25.4	3.8
6/14/80	6/15/80	22.2	12.8	297	144.8	68	-6.6	11.4	4.8
6/15/80	6/16/80	21.1	10.0	576	23.5	57	4.1		4.1
6/16/80	6/17/80	23.3	10.6	534	8.4	55	3.0		3.0
6/17/80	6/18/80	26.7	13.3	584	201.5	65	6.6	4.8	11.4
6/18/80	6/19/80	21.1	12.8	614	168.8	49	2.3		2.3
6/19/80	6/20/80	24.4	8.9	632	54.6	50	6.3		6.3
6/20/80	6/21/80	26.7	12.2	654	69.8	54	4.6		4.6
6/21/80	6/22/80	27.8	15.6	515	123.1	61	6.3		6.3
6/22/80	6/23/80	30.0	17.2	500	39.3	54	3.3		3.3
6/23/80	6/24/80	27.2	15.0	591	56.2	63	2.3		2.3
6/24/80	6/25/80	32.2	16.1	592	57.0	56	3.8		3.8
6/25/80	6/26/80	34.4	20.6	594	48.8	55	6.1		6.1
6/26/80	6/27/80	35.0	22.8	581	96.1	64	8.9		8.9
6/27/80	6/28/80	30.0	17.2	665	80.1	47	9.9		9.9
6/28/80	6/29/80	24.4	13.9	684	166.4	50	7.9		7.9
6/29/80	6/30/80	27.2	10.0	621	57.6	48	5.6		5.6
6/30/80	7/ 1/80	30.6	16.1	572	68.7	53	6.3		6.3
7/ 1/80	7/ 2/80	28.9	13.9	547	62.9	48	6.3		6.3

TABLE B2- 2. CONTINUED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
7/ 2/80	7/ 3/80	28.9	13.9	482	27.8	79	4.8		4.8
7/ 3/80	7/ 4/80	32.8	18.9	483	47.5	60	4.6		4.6
7/ 4/80	7/ 5/80	33.3	20.0	721	150.2	53	8.1		8.1
7/ 5/80	7/ 6/80	29.4	17.8	442	153.4	65	2.8		2.8
7/ 6/80	7/ 7/80	36.1	24.4	665	146.1	51	9.9		9.9
7/ 7/80	7/ 8/80	32.8	22.2	567	98.3	56	9.9		9.9
7/ 8/80	7/ 9/80	33.3	21.7	573	71.8	60	1.5	5.6	7.1
7/ 9/80	7/10/80	34.4	21.7	585	38.6	53	5.8		5.8
7/10/80	7/11/80	34.4	21.7	501	84.2	57	9.4		9.4
7/11/80	7/12/80	32.8	22.8	651	115.6	50	4.6		4.6
7/12/80	7/13/80	32.8	17.8	610	76.0	60	11.4		11.4
7/13/80	7/14/80	36.7	23.3	352	166.4	50	3.0		3.0
7/14/80	7/15/80	35.6	23.3	506	50.2	76	4.8		4.8
7/15/80	7/16/80	30.6	20.0	617	97.2	48	-6.9	25.7	18.8
7/16/80	7/17/80	33.9	17.8	628	48.4	51	7.6		7.6
7/17/80	7/18/80	31.7	19.4	363	160.1	64	7.6	3.6	11.2
7/18/80	7/19/80	31.1	21.7	411	47.8	69	4.1		4.1
7/19/80	7/20/80	32.2	17.8	497	136.3	63	5.1		5.1
7/20/80	7/21/80	28.9	13.9	556	48.3	51	4.3		4.3
7/21/80	7/22/80	28.9	13.9	708	73.2	61	3.8		3.8
7/22/80	7/23/80	28.3	13.3	574	25.3	48	2.0		2.0
7/23/80	7/24/80	30.0	13.9	623	91.4	50	2.8		2.8
7/24/80	7/25/80	30.6	18.9	293	54.7	89	3.3	3.3	6.6
7/25/80	7/26/80	26.7	17.8	315	75.5	61	-11.4	16.3	4.9
7/26/80	7/27/80	26.7	13.3	528	36.5	50	4.6		4.6
7/27/80	7/28/80	30.0	16.1	638	72.9	55	8.4		8.4
7/28/80	7/29/80	32.2	16.7	682	41.5	68	6.1		6.1
7/29/80	7/30/80	35.6	20.0	451	129.4	48	4.3		4.3
7/30/80	7/31/80	31.1	20.0	597	61.0	48	9.7		9.7
7/31/80	8/ 1/80	34.4	18.9	637	26.9	52	3.8		3.8
8/ 1/80	8/ 2/80	27.8	18.3	313	71.8	64	4.8		4.8
8/ 2/80	8/ 3/80	30.6	14.4	603	45.7	48	6.3		6.3
8/ 3/80	8/ 4/80	23.3	20.0	142	140.3	92	0.5	4.1	4.6
8/ 4/80	8/ 5/80	31.1	13.9	597	80.3	47	5.8		5.8
8/ 5/80	8/ 6/80	32.2	20.6	532	107.7	63		124.5	
8/ 6/80	8/ 7/80	35.6	23.3	583	160.6	56	6.9		6.9
8/ 7/80	8/ 8/80	34.4	22.8	526	151.0	78	2.8	6.3	9.1
8/ 8/80	8/ 9/80	28.9	20.6	347	9.0	85	-7.9	13.0	5.1
8/ 9/80	8/10/80	28.9	18.9	460	94.8	64	-7.9	21.6	13.7
8/10/80	8/11/80	26.1	17.8	464	64.7	70	-13.2	22.9	9.7
8/11/80	8/12/80	26.7	13.3	590	21.6	66	5.3		5.3
8/12/80	8/13/80	29.4	17.8	398	85.6	66	3.6		3.6
8/13/80	8/14/80	30.0	23.3	388	42.5	60	4.3		4.3
8/14/80	8/15/80	26.1	14.4	427	55.0	66	3.8		3.8
8/15/80	8/16/80	23.9	15.0	52	119.3	98	-39.4	54.4	15.0
8/16/80	8/17/80	26.7	16.1	261	108.0	61	3.8	2.5	6.3

TABLE B2- 2. CONTINUED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
8/17/80	8/18/80	30.6	14.4	533	83.5	66	6.1		6.1
8/18/80	8/19/80	32.8	17.8	516	130.0	70	3.3	8.6	11.9
8/19/80	8/20/80	32.2	23.3	473	139.2	73	5.6		5.6
8/20/80	8/21/80	27.8	16.1	604	207.8	52	8.6		8.6
8/21/80	8/22/80	30.0	13.3	258	34.9	49	5.1		5.1
8/22/80	8/23/80	30.0	14.4	163	81.8	54	6.6		6.6
8/23/80	8/24/80	28.9	13.3	550	184.9	60	7.4		7.4
8/24/80	8/25/80	32.2	18.9	523	167.4	59	6.6		6.6
8/25/80	8/26/80	32.8	17.2	474	39.6	54	4.8		4.8
8/26/80	8/27/80	23.9	17.8	228	43.0	93	3.8		3.8
8/27/80	8/28/80	28.9	17.8	293	36.4	66	1.3		1.3
8/28/80	8/29/80	31.1	20.6	446	60.4	53	5.1		5.1
8/29/80	8/30/80	28.9	20.0	277	104.6	72	1.3	2.5	3.8
8/30/80	8/31/80	26.1	17.8	269	72.6	70	1.0	2.8	3.8
8/31/80	9/ 1/80	27.2	18.3	401	90.0	91	-3.6	10.2	6.6
9/ 1/80	9/ 2/80	26.7	11.7	512	10.6	51	2.8		2.8
9/ 2/80	9/ 3/80	31.1	17.2	502	155.8	61	5.8		5.8
9/ 3/80	9/ 4/80	27.2	17.2	370	121.8	48	-21.1	33.0	11.9
9/ 4/80	9/ 5/80	28.9	11.1	493	65.2	57	3.6		3.6
9/ 5/80	9/ 6/80	26.7	14.4	263	37.5	77	-11.2	20.3	9.1
9/ 6/80	9/ 7/80	32.2	18.9	470	165.3	64	2.8		2.8
9/ 7/80	9/ 8/80	32.2	21.1	464	101.2	57	6.1		6.1
9/ 8/80	9/ 9/80	22.2	16.7	436	141.1	52	-0.8	6.3	5.5
9/ 9/80	9/10/80	24.4	6.7	496	16.3	48	5.8		5.8
9/10/80	9/11/80	26.7	14.4	383	66.9	61	2.8		2.8
9/11/80	9/12/80	30.0	15.6	244	51.3	73	2.5		2.5
9/12/80	9/13/80	25.7	16.7	286	188.9	68	-5.8	10.4	4.6
9/13/80	9/14/80	21.1	13.9	103	72.9	78	3.0		3.0
9/14/80	9/15/80	22.8	14.4	279	90.1	67	1.0		1.0
9/15/80	9/16/80	18.3	10.6	113	92.5	80	2.5		2.5
9/16/80	9/17/80	19.4	2.2	409	52.8	49	1.5		1.5
9/17/80	9/18/80	18.3	10.0	428	113.9	54	2.8		2.8
9/18/80	9/19/80	29.4	10.0	360	116.8	67	4.1		4.1
9/19/80	9/20/80	30.6	17.2	345	175.3	57	-3.8	8.9	5.1
9/20/80	9/21/80	28.3	14.4	412	158.5	50	5.1		5.1
9/21/80	9/22/80	26.7	13.9	282	102.0	50	-4.3	10.2	5.9
9/22/80	9/23/80	20.6	5.6	447	25.4	47	2.8		2.8
9/23/80	9/24/80	21.1	7.2	257	76.8	65	3.0		3.0
9/24/80	9/25/80	17.2	4.4	346	143.2	59	4.1		4.1
9/25/80	9/26/80	18.9	0.0	409	48.4	49	1.5		1.5
9/26/80	9/27/80	25.6	10.0	406	148.4	54	4.6		4.6
9/27/80	9/28/80	24.4	12.8	330	57.5	47	5.6		5.6
9/28/80	9/29/80	23.9	8.3	304	124.2	68	2.5		2.5
9/29/80	9/30/80	27.2	13.3	342	89.0	50	3.3		3.3
9/30/80	10/ 1/80	21.1	13.9	182	99.8	49	3.0		3.0
10/ 1/80	10/ 2/80	20.0	6.7	214	145.2	61	3.3		3.3

TABLE B2- 2. CONTINUED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
10/ 2/80	10/ 3/80	10.6	3.9	203	80.6	55	2.5		2.5
10/ 3/80	10/ 4/80	15.0	2.2	214	19.6	56	1.0		1.0
10/ 4/80	10/ 5/80	22.2	-1.7	355	91.9	53	3.0		3.0
10/ 5/80	10/ 6/80	24.4	0.6	371	74.0	48	2.8		2.8
10/ 6/80	10/ 7/80	26.7	7.8	361	95.3	46	4.6		4.6
10/ 7/80	10/ 8/80	27.8	10.6	356	129.9	46	5.3		5.3
10/ 8/80	10/ 9/80	24.4	4.4	347	57.5	60	4.3		4.3
10/ 9/80	10/10/80	23.3	10.6	333	235.4	45	6.6		6.6
10/10/80	10/11/80	11.1	5.6	183	309.8	60	3.3		3.3
10/11/80	10/12/80	13.3	-3.9	335	38.6	49	3.6		3.6
10/12/80	10/13/80	16.7	-1.1	217	59.7	49	2.8		2.8
10/13/80	10/14/80	20.0	7.8	319	159.2	55	2.3		2.3
10/14/80	10/15/80	12.2	3.9	108	99.8	92	1.8	1.3	3.1
10/15/80	10/16/80	18.3	8.9	104	314.8	84	-6.9		-6.9
10/16/80	10/17/80	13.3	7.2	245	184.1	66	-8.1	10.4	2.3
10/17/80	10/18/80	8.3	2.8	143	119.9	71	2.5	11.4	13.9
10/18/80	10/19/80	14.4	-1.1	319	232.6	57	1.5		1.5
10/19/80	10/20/80	18.9	6.1	316	292.1	48	2.5		2.5
10/20/80	10/21/80	16.1	3.3	286	123.9	52	3.0		3.0
10/21/80	10/22/80	16.1	3.9	259	107.3	50	3.3		3.3
10/22/80	10/23/80	20.0	6.1	218	185.6	84	2.5		2.5
10/23/80	10/24/80	5.6	0.6	54	226.1	87	-24.6	34.3	9.7
10/24/80	10/25/80	2.8	-1.7	106	254.0	72	1.3		1.3
10/25/80	10/26/80	4.4	-2.2	181	150.2	74	1.0		1.0
10/26/80	10/27/80	2.8	-1.7	43	127.5	95	0.0	1.3	1.3
10/27/80	10/28/80	5.6	-5.0	313	97.8	56	0.8		0.8
10/28/80	10/29/80	7.8	-7.2	272	123.6	77	0.5		0.5
10/29/80	10/30/80	13.3	-3.3	261	134.2	67	1.3		1.3
10/30/80	10/31/80	16.7	0.0	264	99.1	56	1.5		1.5
10/31/80	11/ 1/80	12.2	-1.7	223	114.4	43	1.3		1.3
11/ 1/80	11/ 2/80	13.9	-1.7	190	38.9	57	2.0		2.0
11/ 2/80	11/ 3/80	14.4	7.2	109	282.1	75	2.0		2.0
11/ 3/80	11/ 4/80	12.2	1.1	248	244.0	56	2.5		2.5
11/ 4/80	11/ 5/80	13.3	-1.1	260	61.2	49	1.5		1.5
11/ 5/80	11/ 6/80	23.3	3.3	239		56			
11/ 6/80	11/ 7/80	20.0	3.9	234		54			
11/ 7/80	11/ 8/80	20.0	5.6	121		59			
11/ 8/80	11/ 9/80	17.8	-1.1	258		48			
11/ 9/80	11/10/80	8.9	-3.9	241		70			
11/10/80	11/11/80	6.7	0.6	134		51			
11/11/80	11/12/80	12.8	4.4	144		51			
11/12/80	11/13/80	12.8	1.7	148		95			
11/13/80	11/14/80	1.7	-1.7	47		92			
11/14/80	11/15/80	2.2	-3.9	137		95			
11/15/80	11/16/80	6.7	-5.6	228		91			
11/16/80	11/17/80	1.1	-6.1	90		82			

TABLE B2- 2. CONCLUDED

BEGINNING DATE	ENDING DATE	MAXIMUM TEMPERATURE DEGREES C	MINIMUM TEMPERATURE DEGREES C	SOLAR RADIATION LANGLEYS	TOTAL WIND KILOMETERS	RELATIVE HUMIDITY PERCENT	PAN EVAPORATION MM	PRECIPITATION MM	NET EVAPORATION MM
11/17/80	11/18/80								
11/18/80	11/19/80	9.4	-5.0	228					
11/19/80	11/20/80	6.7	-2.2	153					
11/20/80	11/21/80	8.3	-6.1	228					
11/21/80	11/22/80	12.8	1.1	226					
11/22/80	11/23/80	5.6	-5.0	94					
11/23/80	11/24/80	1.7	-10.0	222					
11/24/80	11/25/80	3.9	-11.7	186					
11/25/80	11/26/80	5.0	-6.7	201					
11/26/80	11/27/80	3.3	-5.6	96					
11/27/80	11/28/80	5.0	-8.3	101					
11/28/80	11/29/80	7.8	-2.2	207					
11/29/80	11/30/80	15.6	-0.6	190					
11/30/80	12/ 1/80	3.9	-11.7	91					
12/ 1/80	12/ 2/80	-10.6	-19.4	210					
12/ 2/80	12/ 3/80	-3.9	-16.7	184					
12/ 3/80	12/ 4/80	2.8	-7.2	140					
12/ 4/80	12/ 5/80	10.6	2.8	35					
12/ 5/80	12/ 6/80	7.2	3.3	36					
12/ 6/80	12/ 7/80	5.6	0.6	21					
12/ 7/80	12/ 8/80	0.6	-7.2	112					
12/ 8/80	12/ 9/80	0.6	-6.7	122					
12/ 9/80	12/10/80	-3.9	-10.6	100					
12/10/80	12/11/80	-2.8	-11.7	58					
12/11/80	12/12/80	8.3	-2.8	174					
12/12/80	12/13/80	-0.6	-11.1	194					
12/13/80	12/14/80	2.2	-6.7	153					
12/14/80	12/15/80	2.8	-8.9	122					
12/15/80	12/16/80	0.0	-2.8	46					
12/16/80	12/17/80	8.3	-2.8	125					
12/17/80	12/18/80	-0.4	-5.2	32					
12/18/80	12/19/80	-0.3	-17.9	161					
12/19/80	12/20/80	-12.9	-20.6	189					
12/20/80	12/21/80	-8.1	-13.6	135					
12/21/80	12/22/80	-3.7	-9.8	63					
12/22/80	12/23/80	0.2	-6.5	79					

TABLE B2-2. PRECIPITATION AT FOUR MILE CREEK WATERSHED SUPPLEMENTAL GAGES FOR 1980, mm*

Date	Gage 41	42	43	44	45	46	47
1980							
5/12-5/18	23.1	18.8	19.3	13.0	13.0	8.1	8.6
5/27	33.0	22.9	45.7	22.9	5.1	0.8	5.3
5/28-5/29	58.4	54.6	111.8	38.1	34.3	27.9	43.2
5/30	11.4	10.2	11.4	11.4	10.2	10.2	11.4
May†	125.9	106.5	188.2	85.4	62.6	47.0	68.5
6/1	10.2	10.2	10.2	10.2	11.4	10.2	14.2
6/2	30.5	27.9	33.3	33.0	22.4	22.6	23.4
6/4	2.5	2.5	2.5	3.8	5.1	5.1	5.1
6/6-6/7	19.1	7.6	15.2	12.7	11.4	17.8	14.2
6/12-6/14	25.4	27.9	25.4	22.9	20.3	21.6	24.9
6/15	12.7	14.0	12.7	14.0	17.8	17.8	14.7
6/18	5.1	2.5	6.4	15.1	7.6	7.6	6.1
June	105.5	92.6	105.7	101.7	96.0	102.7	102.6
7/9	2.5	2.0	2.5	3.8	6.4	5.1	6.4
7/16	17.8	22.9	17.8	27.9	29.2	26.7	24.1
7/18	6.4	6.4	5.1	7.6	7.6	3.8	6.1
7/25-7/26	3.1	6.4	3.1	3.1	5.1	6.4	7.6
July	29.8	37.7	28.5	42.4	48.3	42.0	44.2
8/4	2.3	2.3	2.3	2.3	2.5	2.5	3.8
8/6	44.5	40.1	50.8	50.8	53.3	101.6	116.8
8/8-8/9	17.8	17.8	15.2	15.2	17.8	15.2	18.8
8/10	8.1	15.2	12.7	15.2	12.7	17.8	17.3
8/11	21.6	20.3	20.6	25.4	33.0	29.2	18.8
8/16-8/17	36.8	34.8	36.8	34.3	39.4	44.5	44.2
8/19†	0.0	0.0	0.0	0.0	0.0	0.0	4.6
8/28-9/1†	11.4	7.6	0.0	5.1	5.1	8.9	10.2
August	142.5	138.1	138.4	148.3	163.8	219.7	234.5
9/4	}27.9	}31.8	30.5	29.2	30.5	--	}41.9
9/11†			11.4	6.4	6.4	--	
9/18†	4.1	7.6	6.4	29.2	12.7	--	15.2
9/24	12.7	12.2	10.9	10.9	10.2	--	15.2
September	44.7	51.6	59.2	75.7	59.8	--	72.3

*Gages were installed 5/12/80.

†Evaporation caused inaccuracy in the readings.

TABLE B3-1. TEMPERATURE OF THE SOIL PROFILE IN THE FOUR MILE CREEK AREA

Date	Location	Time	Temperature, °C					
		Depth, cm:	2.5	7.5	15	30	60	90
1979								
1/4	Weather station	1430	-2	-1	-1	1	2	3
1/12	Site 1	1315	-7	-7	-7	-6	-2	2
	Weather station	1350	-3	-2	-2	0	1	3
1/18	Site 1	1330	-9	-8	-7	-6	-3	1
	Weather station	1400	-3	-2	-2	-1	1	2
1/31	Site 1	1330	-8	-7	-7	-5	-3	0
2/13	Site 1	1330	-6	-6	-6	-6	-4	-1
	Weather station	1430	-2	-2	-2	-1	1	2
2/22	Site 1	1400	-3	-3	-3	-3	-3	-1
	Weather station	1440	-1	-1	-1	0	1	2
3/5	Site 1	1500	--	--	--	--	-1	-1
	Weather station	1600	0	0	-1	0	1	2
3/16	Site 1	1400	--	--	-2	--	-1	-1
3/18	Site 1	1200	--	0	0	-1	-1	0
	Weather station	1200	0	0	-1	0	1	1
3/19	Site 1	1130	--	3	0	-1	-1	0
	Weather station	1000	1	1	0	0	2	2
3/20	Site 1	1130	2	1	0	-1	-1	0
	Weather station	1215	1	0	0	0	1	2
3/28	Site 1	1330	--	--	1	0	-1	0
	Weather station	1430	0	0	0	0	1	2
4/5	Weather station	--	2	1	1	1	1	2
4/13	Weather station	1500	6	5	4	4	3	3
12/10	Site 1	1500	2	0	1	1	3	6
	EPA house	Installed						
12/19	Site 1	1640	0	-1	-1	1	2	5
12/26	Site 1	1500	-1	-1	0	0	1	4
	EPA house	1430	-1	0	0	1	2	4
1980								
1/4	Site 1	1250	-1	-2	-1	1	2	4
	EPA house	1315	-1	0	1	1	2	4
1/11	Site 1	1230	-4	-3	-2	-1	1	1
1/18	Site 1	1315	-1	-1	-1	-1	1	3
	EPA house	1400	-1	0	-1	1	2	3

TABLE B3-1 (continued).

Date	Location	Time	Temperature, °C					
1980		Depth, cm:	2.5	7.5	15	30	60	90
1/25	Site 1	1300	-1	-2	-1	-1	1	3
	EPA house	1400	-1	-1	-1	1	2	3
2/4	Site 1	1215	-5	-5	-5	-3	-1	2
	EPA house	1245	-3	-3	-3	-1	1	2
2/13	Site 1	1245	-3	-4	-5	-4	-1	2
	EPA house	1305	-2	-3	-3	-1	1	2
2/19	Site 1	1410	-1	-2	-3	-3	-2	1
	EPA house	1700	-1	-1	-2	-1	0	2
2/21	Site 1	1520	0	-1	-1	-1	-1	1
	EPA house	1440	--	-1	-1	-1	0	2
2/22	Site 1	0700	0	-1	-1	-1	-1	1
	Site 1	1100	1	-1	-1	-1	-1	1
2/23	Site 1	1335	1	-1	-1	-1	-1	1
	EPA house	1700	--	0	-1	-1	0	2
3/3	Site 1	1430	-1	-3	-4	-4	-2	1
	EPA house	1600	--	-1	-2	-2	0	2
3/9	Site 1	1400	1	1	-2	-2	-1	1
	EPA house	1515	--	-1	--	-1	0	1
3/14	Site 1	1415	2	-2	-2	-2	-1	1
	EPA house	1420	--	-1	-1	0	0	2
3/15	Site 1	1400	4	-1	-1	-1	-1	1
	EPA house	1220	--	0	-1	-1	1	2
3/16	Site 1	1415	4	1	-1	-1	-1	1
	EPA house	1315	--	0	-1	-1	0	2
3/19	Site 1	1430	9	3	0	0	0	1
	EPA house	1500	--	2	1	0	1	2
3/25	Site 1	1400	12	2	1	1	1	2
	EPA house	1500	--	4	3	2	2	2
4/2	Site 1	1410	7	3	1	1	0	1
4/8	Site 1	1345	5	5	4	3	1	1
4/16	Site 1	--	14	10	6	2	1	3
	EPA house	1300	--	9	6	4	4	4
4/17	Site 1	--	16	11	7	4	1	2
4/22	Site 1	--	22	18	14	11	6	3
4/23	Site 1	--	17	13	12	11	6	3

APPENDIX C

CROP LEAF CANOPY, CROP YIELD AND TILLAGE OPERATIONS

TABLE C1-1. CROP LEAF CANOPY DEVELOPMENT*

Percentage of soil surface area covered by leaf canopy					
	1979			1980	
Date	Site 1 corn	Site 2 soybeans	Date	Site 1 soybeans	Site 2† corn
5/30	5	2	3/16	0	0
6/5	9	4	5/22	0	3
6/11	11	7	6/5	6	11
6/14	15	5	6/13	10	27
6/25	36	3	6/23	11	56
7/6	73	16	7/1	33	76
7/14	68	24	7/8	49	91
7/20	85	48	7/17	54	96
8/3	78	69	7/24	79	97
8/16	--	68	8/1	84	95
8/24	--	86	9/18	96	74
9/20	80	99	9/24	97	75
10/2	--	90			

*Both sites were planted with 76 cm row spacings.

†The corn field was planted with a population of 56,000 plants per hectare.

TABLE C1-2. RESIDUE COVERAGE, 1980*

Date	Percentage of soil surface area covered by residue: Site 1 soybeans	Site 2 corn
3/16/80†	89	68
5/22/80	33	8
6/5/80	32	7
6/13/80	18	2
6/23/80	13	0
7/17/80	11	--
7/24/80	3	--
8/1/80	3	--
10/14/80§	99	88
10/30/80∞	--	99
10/30/80¶	--	52

*The residue measurements early in the season were from the previous crop.

†Before tillage

§After harvest.

∞After chopping cornstalks.

¶After chisel plowing, chopped cornstalks.

TABLE C2-1. ESTIMATED CROP YIELDS FROM SITES 1 AND 2

Year	Location	Crop	Yield of grain* tonne/ha
1979	Site 1	Corn	8.07
1980	Site 2	Corn	8.11
1979	Site 2	Soybeans	2.72
1980	Site 1	Soybeans	2.78

*The yield was calculated on an oven dry weight basis, based on six samples from each field before harvest in the fall. The farmer should harvest five to ten percent less than measured yields, due to harvest losses and end rows.

TABLE C3-1. TILLAGE OPERATIONS AT SITE 1

1979	
5/4	- Fertilizer was spread on the field and incorporated by disking.
5/5	- The field was field cultivated and rolled with a roller-harrow to prepare a seedbed.
5/7	- The field was planted to corn.
5/8	- Herbicide was applied to the field.
10/25	- Corn was harvested from the field.
12/10	- Phosphorus and potassium were spread on the field.
1980	
4/17	- The cornstalks were chopped and the field was chisel plowed.
5/19	- The field was disked to prepare a seedbed.
5/20	- The field was rolled with a roller-harrow to prepare a seedbed.
5/21	- The field was planted to soybeans.
5/23	- Herbicide was applied to the field.
6/11	- The field was cultivated for weed control.
7/8	- The field was cultivated for weed control.
9/30	- Soybeans were harvested from the field.

TABLE C3-2. TILLAGE OPERATIONS AT SITE 2

1979		
4/18	-	Fertilizer was spread on the field.
4/18-4/23	-	The field was plowed to incorporate the fertilizer and cornstalk residue from the previous year.
5/17	-	The field was disked to prepare a seedbed.
5/18	-	The field was field cultivated to prepare a seedbed.
5/19	-	The field was planted to soybeans.
5/21	-	Herbicide was applied to the field.
6/16	-	The field was disked and replanted to soybeans.
6/29	-	The field was cultivated for weed control.
7/20	-	The field was cultivated for weed control.
10/8	-	Soybeans were harvested from the field.
12/10	-	Phosphorus and potassium were spread on the field.
1980		
4/30	-	Nitrogen fertilizer was spread on the field and incorporated by disking.
5/3	-	The field was rolled with a roller-harrow to prepare a seedbed.
5/4	-	The field was planted to corn.
5/7	-	Herbicide was applied to the field.
10/14	-	Corn was harvested from the field.
10/21	-	The cornstalks were chopped.
10/30	-	The field was chisel plowed.

APPENDIX D

STREAM FLOW AND RUNOFF DATA

TABLE D1- 1. FOUR MILE CREEK WATERSHED RUNOFF DATA FOR 1979 SITE 1

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	3/16/79	14	0	0.0	0.0	0.0	0.0	0.0
1	3/16/79	17	26	0.034	0.0031	0.218	0.37	0.37
1	3/16/79	18	12	0.037	0.0036	0.256	0.56	0.56
1	3/16/79	18	56	0.040	0.0041	0.294	0.76	0.76
1	3/16/79	20	10	0.043	0.0047	0.332	1.14	1.14
1	3/16/79	24	0	0.046	0.0052	0.370	2.49	2.49
1	3/17/79	11	16	0.049	0.0057	0.409	6.88	6.88
1	3/17/79	12	31	0.052	0.0063	0.447	7.41	7.41
1	3/17/79	13	40	0.055	0.0068	0.485	7.95	7.95
1	3/17/79	14	26	0.058	0.0073	0.523	8.34	8.34
1	3/17/79	14	48	0.061	0.0079	0.561	8.53	8.53
1	3/17/79	14	55	0.064	0.0087	0.619	8.60	8.60
1	3/17/79	15	0	0.067	0.0095	0.677	8.66	8.66
1	3/17/79	15	2	0.070	0.0103	0.735	8.68	8.68
1	3/17/79	15	7	0.073	0.0111	0.793	8.74	8.74
1	3/17/79	15	14	0.076	0.0119	0.851	8.84	8.84
1	3/17/79	15	21	0.079	0.0127	0.909	8.94	8.94
1	3/17/79	15	25	0.082	0.0136	0.967	9.01	9.01
1	3/17/79	15	29	0.085	0.0144	1.025	9.07	9.07
1	3/17/79	15	37	0.088	0.0152	1.083	9.21	9.21
1	3/17/79	15	40	0.091	0.0160	1.141	9.27	9.27
1	3/17/79	15	42	0.094	0.0171	1.216	9.31	9.31
1	3/17/79	15	45	0.098	0.0181	1.292	9.37	9.37
1	3/17/79	15	47	0.101	0.0192	1.368	9.41	9.41
1	3/17/79	15	49	0.104	0.0202	1.443	9.46	9.46
1	3/17/79	15	52	0.107	0.0213	1.519	9.53	9.53
1	3/17/79	15	55	0.110	0.0224	1.595	9.61	9.61
1	3/17/79	15	58	0.113	0.0234	1.670	9.69	9.69
1	3/17/79	16	0	0.116	0.0245	1.746	9.75	9.75
1	3/17/79	16	7	0.119	0.0256	1.822	9.96	9.96
1	3/17/79	16	16	0.122	0.0266	1.898	10.24	10.24
1	3/17/79	16	23	0.125	0.0280	1.994	10.47	10.47
1	3/17/79	17	4	0.122	0.0266	1.898	11.79	11.79
1	3/17/79	17	17	0.122	0.0266	1.898	12.21	12.21
1	3/17/79	17	19	0.128	0.0293	2.091	12.27	12.27
1	3/17/79	18	36	0.125	0.0280	1.994	14.89	14.89
1	3/17/79	20	30	0.125	0.0280	1.994	18.68	18.68
1	3/17/79	21	32	0.122	0.0266	1.898	20.69	20.69
1	3/17/79	22	19	0.119	0.0256	1.822	22.15	22.15
1	3/17/79	23	16	0.116	0.0245	1.746	23.85	23.85
1	3/17/79	23	51	0.113	0.0234	1.670	24.84	24.84
1	3/18/79	0	12	0.110	0.0224	1.595	25.41	25.41
1	3/18/79	0	14	0.116	0.0245	1.746	25.47	25.47
1	3/18/79	0	42	0.113	0.0234	1.670	26.27	26.27
1	3/18/79	0	48	0.110	0.0224	1.595	26.43	26.43
1	3/18/79	1	36	0.107	0.0213	1.519	27.68	27.68
1	3/18/79	1	40	0.104	0.0202	1.443	27.77	27.77
1	3/18/79	2	5	0.101	0.0192	1.368	28.36	28.36
1	3/18/79	2	24	0.398	0.0181	1.292	28.78	28.78
1	3/18/79	2	43	0.101	0.0192	1.368	29.20	29.20
1	3/18/79	2	48	0.104	0.0202	1.443	29.32	29.32
1	3/18/79	2	54	0.107	0.0213	1.519	29.47	29.47
1	3/18/79	2	57	0.110	0.0224	1.595	29.54	29.54
1	3/18/79	3	1	0.113	0.0234	1.670	29.65	29.65
1	3/18/79	3	15	0.116	0.0245	1.746	30.05	30.05
1	3/18/79	3	25	0.119	0.0256	1.822	30.35	30.35
1	3/18/79	3	29	0.122	0.0266	1.898	30.47	30.47
1	3/18/79	3	36	0.119	0.0256	1.822	30.69	30.69
1	3/18/79	3	40	0.116	0.0245	1.746	30.81	30.81
1	3/18/79	3	46	0.119	0.0256	1.822	30.99	30.99
1	3/18/79	3	58	0.122	0.0266	1.898	31.36	31.36
1	3/18/79	4	0	0.125	0.0280	1.994	31.42	31.42
1	3/18/79	4	4	0.122	0.0266	1.898	31.55	31.55
1	3/18/79	4	29	0.119	0.0256	1.822	32.33	32.33
1	3/18/79	4	50	0.119	0.0256	1.822	32.97	32.97
1	3/18/79	5	2	0.116	0.0245	1.746	33.32	33.32
1	3/18/79	5	25	0.113	0.0234	1.670	33.98	33.98
1	3/18/79	5	54	0.113	0.0234	1.670	34.79	34.79
1	3/18/79	6	40	0.110	0.0224	1.595	36.04	36.04
1	3/18/79	7	15	0.107	0.0213	1.519	36.95	36.95
1	3/18/79	8	24	0.107	0.0213	1.519	38.69	38.69
1	3/18/79	9	40	0.110	0.0224	1.595	40.66	40.66
1	3/18/79	10	13	0.113	0.0234	1.670	41.56	41.56
1	3/18/79	10	26	0.116	0.0245	1.746	41.93	41.93
1	3/18/79	11	1	0.119	0.0256	1.822	42.97	42.97
1	3/18/79	11	8	0.122	0.0266	1.898	43.19	43.19
1	3/18/79	11	15	0.125	0.0280	1.994	43.42	43.42
1	3/18/79	11	20	0.128	0.0293	2.091	43.59	43.59
1	3/18/79	11	31	0.131	0.0307	2.188	43.98	43.98
1	3/18/79	11	35	0.134	0.0321	2.285	44.13	44.13
1	3/18/79	11	40	0.137	0.0334	2.382	44.32	44.32
1	3/18/79	12	10	0.140	0.0348	2.479	45.54	45.54
1	3/18/79	12	17	0.143	0.0361	2.576	45.83	45.83
1	3/18/79	12	26	0.146	0.0375	2.673	46.23	46.23
1	3/18/79	12	45	0.149	0.0389	2.770	47.09	47.09
1	3/18/79	13	16	0.152	0.0402	2.866	48.54	48.54
1	3/18/79	13	43	0.152	0.0402	2.866	49.83	49.83
1	3/18/79	14	10	0.149	0.0389	2.770	51.10	51.10
1	3/18/79	14	28	0.152	0.0402	2.866	51.95	51.95
1	3/18/79	14	30	0.155	0.0419	2.986	52.05	52.05
1	3/18/79	14	32	0.158	0.0436	3.105	52.15	52.15
1	3/18/79	14	44	0.162	0.0452	3.224	52.78	52.78
1	3/18/79	14	57	0.158	0.0436	3.105	53.47	53.47
1	3/18/79	15	18	0.158	0.0436	3.105	54.55	54.55
1	3/18/79	15	22	0.162	0.0452	3.224	54.76	54.76
1	3/18/79	15	28	0.165	0.0469	3.343	55.09	55.09
1	3/18/79	15	31	0.168	0.0486	3.462	55.26	55.26
1	3/18/79	15	39	0.171	0.0502	3.581	55.73	55.73
1	3/18/79	15	42	0.174	0.0519	3.700	55.91	55.91
1	3/18/79	15	47	0.177	0.0536	3.819	56.23	56.23
1	3/18/79	15	52	0.180	0.0552	3.938	56.55	56.55
1	3/18/79	15	55	0.183	0.0569	4.057	56.75	56.75
1	3/18/79	16	3	0.186	0.0589	4.199	57.30	57.30
1	3/18/79	16	10	0.189	0.0609	4.340	57.80	57.80

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	3/18/79	16	27	0.192	0.0629	4.481	59.05	59.05
1	3/18/79	16	38	0.189	0.0609	4.340	59.86	59.86
1	3/18/79	16	43	0.186	0.0589	4.199	60.21	60.21
1	3/18/79	16	49	0.183	0.0569	4.057	60.62	60.62
1	3/18/79	17	46	0.183	0.0569	4.057	64.48	64.48
1	3/18/79	17	56	0.186	0.0589	4.199	65.17	65.17
1	3/18/79	18	20	0.189	0.0609	4.340	66.87	66.87
1	3/18/79	18	26	0.186	0.0589	4.199	67.30	67.30
1	3/18/79	18	57	0.183	0.0569	4.057	69.43	69.43
1	3/18/79	19	11	0.180	0.0552	3.938	70.37	70.37
1	3/18/79	19	28	0.177	0.0536	3.819	71.47	71.47
1	3/18/79	19	46	0.174	0.0519	3.700	72.59	72.59
1	3/18/79	20	4	0.171	0.0502	3.581	73.69	73.69
1	3/18/79	20	14	0.168	0.0486	3.462	74.27	74.27
1	3/18/79	20	30	0.165	0.0469	3.343	75.18	75.18
1	3/18/79	20	44	0.162	0.0452	3.224	75.95	75.95
1	3/18/79	20	56	0.158	0.0436	3.105	76.58	76.58
1	3/18/79	21	10	0.155	0.0419	2.986	77.29	77.29
1	3/18/79	21	28	0.152	0.0402	2.866	78.17	78.17
1	3/18/79	21	40	0.149	0.0389	2.770	78.73	78.73
1	3/18/79	21	48	0.146	0.0375	2.673	79.09	79.09
1	3/18/79	22	6	0.143	0.0361	2.576	79.88	79.88
1	3/18/79	22	28	0.140	0.0348	2.479	80.81	80.81
1	3/18/79	22	34	0.137	0.0334	2.382	81.05	81.05
1	3/18/79	22	45	0.134	0.0321	2.285	81.48	81.48
1	3/18/79	22	53	0.131	0.0307	2.188	81.78	81.78
1	3/18/79	22	59	0.128	0.0293	2.091	81.99	81.99
1	3/18/79	23	12	0.125	0.0280	1.994	82.43	82.43
1	3/18/79	23	32	0.122	0.0266	1.898	83.08	83.08
1	3/18/79	23	39	0.119	0.0256	1.822	83.30	83.30
1	3/18/79	23	52	0.116	0.0245	1.746	83.69	83.69
1	3/19/79	0	8	0.113	0.0234	1.670	84.14	84.14
1	3/19/79	0	29	0.110	0.0224	1.595	84.71	84.71
1	3/19/79	0	33	0.113	0.0234	1.670	84.82	84.82
1	3/19/79	0	40	0.116	0.0245	1.746	85.02	85.02
1	3/19/79	0	42	0.119	0.0256	1.822	85.08	85.08
1	3/19/79	0	44	0.122	0.0266	1.898	85.14	95.14
1	3/19/79	0	49	0.125	0.0280	1.994	85.30	85.30
1	3/19/79	0	58	0.122	0.0266	1.898	85.60	85.60
1	3/19/79	1	9	0.119	0.0256	1.822	85.94	85.94
1	3/19/79	1	18	0.116	0.0245	1.746	86.21	86.21
1	3/19/79	1	27	0.113	0.0234	1.670	86.46	86.46
1	3/19/79	1	40	0.110	0.0224	1.595	86.82	86.82
1	3/19/79	1	58	0.107	0.0213	1.519	87.28	87.28
1	3/19/79	2	18	0.104	0.0202	1.443	87.78	87.78
1	3/19/79	2	37	0.101	0.0192	1.368	88.22	88.22
1	3/19/79	2	56	0.098	0.0181	1.292	88.64	88.64
1	3/19/79	3	17	0.094	0.0171	1.216	89.08	89.08
1	3/19/79	3	35	0.091	0.0160	1.141	89.43	89.43
1	3/19/79	3	59	0.088	0.0152	1.083	89.88	89.88
1	3/19/79	4	13	0.085	0.0144	1.025	90.12	90.12
1	3/19/79	4	28	0.082	0.0136	0.967	90.37	90.37
1	3/19/79	4	45	0.079	0.0127	0.909	90.64	90.64
1	3/19/79	5	3	0.076	0.0119	0.851	90.90	90.90
1	3/19/79	5	20	0.073	0.0111	0.793	91.14	91.14
1	3/19/79	5	51	0.070	0.0103	0.735	91.53	91.53
1	3/19/79	6	20	0.067	0.0095	0.677	91.87	91.87
1	3/19/79	6	53	0.064	0.0087	0.619	92.23	92.23
1	3/19/79	7	16	0.061	0.0079	0.561	92.45	92.45
1	3/19/79	8	12	0.058	0.0073	0.523	92.96	92.96
1	3/19/79	9	5	0.055	0.0068	0.485	93.41	93.41
1	3/19/79	9	35	0.052	0.0063	0.447	93.64	93.64
1	3/19/79	10	34	0.049	0.0057	0.409	94.06	94.06
1	3/19/79	10	51	0.046	0.0052	0.370	94.17	94.17
1	3/19/79	11	33	0.043	0.0047	0.332	94.42	94.42
1	3/19/79	13	17	0.040	0.0041	0.294	94.96	94.96
1	3/19/79	13	57	0.037	0.0036	0.256	95.14	95.14
1	3/19/79	14	30	0.034	0.0031	0.218	95.27	95.27
1	3/19/79	15	4	0.030	0.0025	0.180	95.38	95.38
1	3/19/79	15	41	0.027	0.0023	0.162	95.49	95.49
1	3/19/79	16	20	0.024	0.0020	0.144	95.59	95.59
1	3/19/79	17	2	0.021	0.0018	0.126	95.68	95.68
1	3/19/79	17	59	0.018	0.0015	0.108	95.79	95.79
1	3/19/79	18	43	0.015	0.0013	0.090	95.87	95.87
1	3/19/79	19	0	0.012	0.0010	0.072	95.89	95.89
1	3/19/79	19	27	0.009	0.0008	0.054	95.92	95.92
1	3/19/79	19	50	0.006	0.0005	0.036	95.94	95.94
1	3/19/79	20	6	0.003	0.0003	0.018	95.94	95.94
1	3/19/79	20	20	0.0	0.0	0.0	95.94	95.94
1	3/22/79	23	24	0.0	0.0	0.0	0.0	95.94
1	3/22/79	23	45	0.003	0.0003	0.018	0.00	95.95
1	3/22/79	23	56	0.006	0.0005	0.036	0.01	95.95
1	3/22/79	23	58	0.009	0.0008	0.054	0.01	95.95
1	3/22/79	24	0	0.012	0.0010	0.072	0.01	95.96
1	3/23/79	0	10	0.015	0.0013	0.090	0.03	95.97
1	3/23/79	0	24	0.012	0.0010	0.072	0.04	95.99
1	3/23/79	0	34	0.009	0.0008	0.054	0.05	96.00
1	3/23/79	0	41	0.006	0.0005	0.036	0.06	96.00
1	3/23/79	0	53	0.003	0.0003	0.018	0.07	96.01
1	3/23/79	1	8	0.0	0.0	0.0	0.07	96.01
1	3/23/79	2	40	0.0	0.0	0.0	0.07	96.01
1	3/23/79	2	43	0.003	0.0003	0.018	0.07	96.01
1	3/23/79	2	47	0.006	0.0005	0.036	0.07	96.01
1	3/23/79	2	52	0.009	0.0008	0.054	0.07	96.02
1	3/23/79	3	1	0.012	0.0010	0.072	0.08	96.03
1	3/23/79	3	25	0.015	0.0013	0.090	0.12	96.06
1	3/23/79	3	52	0.018	0.0015	0.108	0.16	96.10
1	3/23/79	4	25	0.021	0.0018	0.126	0.22	96.17
1	3/23/79	4	41	0.021	0.0018	0.126	0.26	96.20
1	3/23/79	5	5	0.018	0.0015	0.108	0.30	96.25
1	3/23/79	6	30	0.015	0.0013	0.090	0.44	96.39
1	3/23/79	7	17	0.012	0.0010	0.072	0.51	96.45

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	3/23/79	7	40	0.012	0.0010	0.072	0.53	96.48
1	3/23/79	7	46	0.015	0.0013	0.090	0.54	96.49
1	3/23/79	7	56	0.018	0.0015	0.108	0.56	96.50
1	3/23/79	8	6	0.021	0.0018	0.126	0.58	96.52
1	3/23/79	8	13	0.024	0.0020	0.144	0.59	96.54
1	3/23/79	8	31	0.027	0.0023	0.162	0.64	96.58
1	3/23/79	9	0	0.030	0.0025	0.180	0.72	96.67
1	3/23/79	9	14	0.027	0.0023	0.162	0.76	96.71
1	3/23/79	9	26	0.024	0.0020	0.144	0.79	96.74
1	3/23/79	9	33	0.027	0.0023	0.162	0.81	96.76
1	3/23/79	10	5	0.030	0.0025	0.180	0.90	96.85
1	3/23/79	10	13	0.034	0.0031	0.218	0.93	96.87
1	3/23/79	10	33	0.037	0.0036	0.256	1.01	96.95
1	3/23/79	10	43	0.040	0.0041	0.294	1.05	97.00
1	3/23/79	11	4	0.043	0.0047	0.332	1.16	97.11
1	3/23/79	11	24	0.040	0.0041	0.294	1.27	97.21
1	3/23/79	12	0	0.037	0.0036	0.256	1.43	97.38
1	3/23/79	12	19	0.034	0.0031	0.218	1.51	97.45
1	3/23/79	12	33	0.030	0.0025	0.180	1.55	97.50
1	3/23/79	12	46	0.027	0.0023	0.162	1.59	97.54
1	3/23/79	12	54	0.024	0.0020	0.144	1.61	97.56
1	3/23/79	13	4	0.021	0.0018	0.126	1.63	97.58
1	3/23/79	13	44	0.018	0.0015	0.108	1.71	97.66
1	3/23/79	14	12	0.021	0.0018	0.126	1.77	97.71
1	3/23/79	14	17	0.024	0.0020	0.144	1.78	97.72
1	3/23/79	14	25	0.027	0.0023	0.162	1.80	97.74
1	3/23/79	14	30	0.030	0.0025	0.180	1.81	97.76
1	3/23/79	14	33	0.034	0.0031	0.218	1.82	97.77
1	3/23/79	14	37	0.037	0.0036	0.256	1.84	97.78
1	3/23/79	14	44	0.040	0.0041	0.294	1.87	97.81
1	3/23/79	14	47	0.043	0.0047	0.332	1.89	97.83
1	3/23/79	14	52	0.046	0.0052	0.370	1.91	97.86
1	3/23/79	14	58	0.049	0.0057	0.409	1.95	97.90
1	3/23/79	15	4	0.046	0.0052	0.370	1.99	97.94
1	3/23/79	15	11	0.043	0.0047	0.332	2.03	97.98
1	3/23/79	15	17	0.040	0.0041	0.294	2.06	98.01
1	3/23/79	15	21	0.037	0.0036	0.256	2.08	96.03
1	3/23/79	15	26	0.034	0.0031	0.218	2.10	98.05
1	3/23/79	15	31	0.030	0.0025	0.180	2.12	98.06
1	3/23/79	15	35	0.027	0.0023	0.162	2.13	98.07
1	3/23/79	15	48	0.024	0.0020	0.144	2.16	98.11
1	3/23/79	15	57	0.021	0.0018	0.126	2.18	98.13
1	3/23/79	16	3	0.021	0.0018	0.126	2.20	98.14
1	3/23/79	16	12	0.024	0.0020	0.144	2.22	98.16
1	3/23/79	16	17	0.027	0.0023	0.162	2.23	98.17
1	3/23/79	16	21	0.030	0.0025	0.180	2.24	98.19
1	3/23/79	16	22	0.034	0.0031	0.218	2.24	98.19
1	3/23/79	16	24	0.037	0.0036	0.256	2.25	98.20
1	3/23/79	16	26	0.040	0.0041	0.294	2.26	98.21
1	3/23/79	16	34	0.043	0.0047	0.332	2.30	98.25
1	3/23/79	16	44	0.040	0.0041	0.294	2.36	98.30
1	3/23/79	17	7	0.037	0.0036	0.256	2.46	98.40
1	3/23/79	17	17	0.034	0.0031	0.218	2.50	98.44
1	3/23/79	17	21	0.030	0.0025	0.180	2.51	98.46
1	3/23/79	17	27	0.027	0.0023	0.162	2.53	98.47
1	3/23/79	17	31	0.024	0.0020	0.144	2.54	98.48
1	3/23/79	17	35	0.021	0.0018	0.126	2.55	98.49
1	3/23/79	17	40	0.018	0.0015	0.108	2.56	98.50
1	3/23/79	17	43	0.015	0.0013	0.090	2.56	98.51
1	3/23/79	17	45	0.012	0.0010	0.072	2.57	98.51
1	3/23/79	17	46	0.009	0.0008	0.054	2.57	98.51
1	3/23/79	17	47	0.006	0.0005	0.036	2.57	98.51
1	3/23/79	17	49	0.003	0.0003	0.018	2.57	98.51
1	3/23/79	17	50	0.0	0.0	0.0	2.57	98.51
1	3/28/79	15	18	0.0	0.0	0.0	0.0	98.51
1	3/28/79	15	19	0.003	0.0003	0.018	0.00	98.51
1	3/28/79	15	20	0.006	0.0005	0.036	0.00	98.51
1	3/28/79	15	21	0.009	0.0008	0.054	0.00	98.52
1	3/28/79	15	25	0.012	0.0010	0.072	0.01	98.52
1	3/28/79	16	55	0.015	0.0013	0.090	0.13	98.64
1	3/28/79	17	14	0.018	0.0015	0.108	0.16	98.67
1	3/28/79	17	24	0.021	0.0018	0.126	0.18	98.69
1	3/28/79	17	31	0.024	0.0020	0.144	0.19	98.71
1	3/28/79	17	35	0.027	0.0023	0.162	0.20	98.72
1	3/28/79	17	39	0.030	0.0025	0.180	0.21	98.73
1	3/28/79	17	42	0.034	0.0031	0.218	0.22	98.74
1	3/28/79	17	44	0.037	0.0036	0.256	0.23	98.75
1	3/28/79	17	45	0.040	0.0041	0.294	0.24	98.75
1	3/28/79	17	46	0.043	0.0047	0.332	0.24	98.76
1	3/28/79	17	47	0.049	0.0057	0.409	0.25	98.76
1	3/28/79	17	50	0.052	0.0063	0.447	0.27	98.78
1	3/28/79	17	55	0.055	0.0068	0.485	0.31	98.82
1	3/28/79	18	20	0.055	0.0068	0.485	0.51	99.02
1	3/28/79	18	31	0.052	0.0063	0.447	0.60	99.11
1	3/28/79	18	42	0.049	0.0057	0.409	0.67	99.19
1	3/28/79	18	52	0.046	0.0052	0.370	0.74	99.25
1	3/28/79	19	2	0.043	0.0047	0.332	0.80	99.31
1	3/28/79	19	10	0.040	0.0041	0.294	0.84	99.35
1	3/28/79	19	23	0.037	0.0036	0.256	0.90	99.41
1	3/28/79	19	38	0.034	0.0031	0.218	0.96	99.47
1	3/28/79	19	56	0.030	0.0025	0.180	1.02	99.53
1	3/28/79	20	20	0.027	0.0023	0.162	1.09	99.60
1	3/28/79	20	46	0.024	0.0020	0.144	1.15	99.67
1	3/28/79	21	21	0.021	0.0018	0.126	1.23	99.75
1	3/28/79	21	57	0.018	0.0015	0.108	1.30	99.82
1	3/28/79	22	44	0.015	0.0013	0.090	1.38	99.89
1	3/28/79	23	44	0.012	0.0010	0.072	1.46	99.97
1	3/29/79	2	0	0.009	0.0008	0.054	1.60	100.12
1	3/29/79	6	19	0.009	0.0008	0.054	1.83	100.35
1	3/29/79	6	20	0.012	0.0010	0.072	1.84	100.35
1	3/29/79	6	21	0.015	0.0013	0.090	1.84	100.35
1	3/29/79	6	23	0.018	0.0015	0.108	1.84	100.35

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	3/29/79	6	24	0.021	0.0018	0.126	1.84	100.36
1	3/29/79	6	26	0.024	0.0020	0.144	1.85	100.36
1	3/29/79	6	28	0.027	0.0023	0.162	1.85	100.37
1	3/29/79	6	30	0.030	0.0025	0.180	1.86	100.37
1	3/29/79	6	32	0.034	0.0031	0.218	1.86	100.38
1	3/29/79	6	34	0.037	0.0036	0.256	1.87	100.39
1	3/29/79	6	36	0.040	0.0041	0.294	1.88	100.40
1	3/29/79	6	37	0.043	0.0047	0.332	1.89	100.40
1	3/29/79	6	40	0.046	0.0052	0.370	1.90	100.42
1	3/29/79	6	43	0.049	0.0057	0.409	1.92	100.44
1	3/29/79	6	46	0.052	0.0063	0.447	1.95	100.46
1	3/29/79	6	48	0.055	0.0068	0.485	1.96	100.47
1	3/29/79	6	51	0.058	0.0073	0.523	1.99	100.50
1	3/29/79	6	53	0.061	0.0079	0.561	2.00	100.52
1	3/29/79	6	57	0.064	0.0087	0.619	2.04	100.56
1	3/29/79	6	58	0.067	0.0095	0.677	2.05	100.57
1	3/29/79	7	5	0.070	0.0103	0.735	2.14	100.65
1	3/29/79	7	6	0.073	0.0111	0.793	2.15	100.66
1	3/29/79	7	8	0.076	0.0119	0.851	2.18	100.69
1	3/29/79	7	9	0.079	0.0127	0.909	2.19	100.70
1	3/29/79	7	10	0.082	0.0136	0.967	2.21	100.72
1	3/29/79	7	11	0.085	0.0144	1.025	2.22	100.74
1	3/29/79	7	12	0.091	0.0160	1.141	2.24	100.75
1	3/29/79	7	13	0.094	0.0171	1.216	2.26	100.77
1	3/29/79	7	14	0.098	0.0181	1.292	2.28	100.80
1	3/29/79	7	15	0.101	0.0192	1.368	2.30	100.82
1	3/29/79	7	16	0.104	0.0202	1.443	2.33	100.84
1	3/29/79	7	18	0.107	0.0213	1.519	2.38	100.89
1	3/29/79	7	19	0.110	0.0224	1.595	2.40	100.92
1	3/29/79	7	20	0.113	0.0234	1.670	2.43	100.94
1	3/29/79	7	21	0.116	0.0245	1.746	2.46	100.97
1	3/29/79	7	22	0.122	0.0266	1.898	2.49	101.00
1	3/29/79	7	23	0.125	0.0280	1.994	2.52	101.03
1	3/29/79	7	24	0.128	0.0293	2.091	2.56	101.07
1	3/29/79	7	25	0.131	0.0307	2.188	2.59	101.10
1	3/29/79	7	30	0.134	0.0321	2.285	2.78	101.29
1	3/29/79	7	36	0.131	0.0307	2.188	3.00	101.51
1	3/29/79	7	40	0.128	0.0293	2.091	3.14	101.66
1	3/29/79	7	43	0.125	0.0280	1.994	3.25	101.76
1	3/29/79	7	45	0.122	0.0266	1.898	3.31	101.82
1	3/29/79	7	47	0.119	0.0256	1.822	3.37	101.89
1	3/29/79	7	49	0.116	0.0245	1.746	3.43	101.95
1	3/29/79	7	51	0.113	0.0234	1.670	3.49	102.00
1	3/29/79	7	53	0.110	0.0224	1.595	3.54	102.06
1	3/29/79	7	55	0.107	0.0213	1.519	3.60	102.11
1	3/29/79	7	58	0.104	0.0202	1.443	3.67	102.18
1	3/29/79	8	0	0.101	0.0192	1.368	3.72	102.23
1	3/29/79	8	4	0.098	0.0181	1.292	3.81	102.32
1	3/29/79	8	8	0.094	0.0171	1.216	3.89	102.40
1	3/29/79	8	13	0.098	0.0181	1.292	3.99	102.51
1	3/29/79	8	16	0.101	0.0192	1.368	4.06	102.57
1	3/29/79	8	17	0.104	0.0202	1.443	4.08	102.60
1	3/29/79	8	19	0.107	0.0213	1.519	4.13	102.65
1	3/29/79	8	20	0.110	0.0224	1.595	4.16	102.67
1	3/29/79	8	23	0.113	0.0234	1.670	4.24	102.75
1	3/29/79	8	25	0.116	0.0245	1.746	4.30	102.81
1	3/29/79	8	27	0.119	0.0256	1.822	4.36	102.87
1	3/29/79	8	29	0.122	0.0266	1.898	4.42	102.93
1	3/29/79	8	32	0.125	0.0280	1.994	4.52	103.03
1	3/29/79	8	34	0.128	0.0293	2.091	4.58	103.10
1	3/29/79	8	37	0.131	0.0307	2.188	4.69	103.20
1	3/29/79	8	39	0.134	0.0321	2.285	4.77	103.28
1	3/29/79	8	41	0.137	0.0334	2.382	4.84	103.36
1	3/29/79	8	45	0.140	0.0348	2.479	5.01	103.52
1	3/29/79	8	48	0.143	0.0361	2.576	5.13	103.64
1	3/29/79	8	53	0.146	0.0375	2.673	5.35	103.86
1	3/29/79	8	58	0.143	0.0361	2.576	5.57	104.08
1	3/29/79	9	0	0.140	0.0348	2.479	5.65	104.17
1	3/29/79	9	3	0.137	0.0334	2.382	5.77	104.29
1	3/29/79	9	6	0.134	0.0321	2.285	5.89	104.40
1	3/29/79	9	11	0.131	0.0307	2.188	6.08	104.59
1	3/29/79	9	12	0.125	0.0280	1.994	6.11	104.63
1	3/29/79	9	13	0.119	0.0256	1.822	6.14	104.66
1	3/29/79	9	14	0.116	0.0245	1.746	6.17	104.69
1	3/29/79	9	16	0.113	0.0234	1.670	6.23	104.74
1	3/29/79	9	18	0.110	0.0224	1.595	6.29	104.80
1	3/29/79	9	20	0.107	0.0213	1.519	6.34	104.85
1	3/29/79	9	22	0.104	0.0202	1.443	6.39	104.90
1	3/29/79	9	24	0.101	0.0192	1.368	6.43	104.95
1	3/29/79	9	24	0.098	0.0181	1.292	6.43	104.95
1	3/29/79	9	31	0.094	0.0171	1.216	6.58	105.09
1	3/29/79	9	36	0.091	0.0160	1.141	6.68	105.19
1	3/29/79	9	40	0.088	0.0152	1.083	6.75	105.27
1	3/29/79	9	47	0.085	0.0144	1.025	6.88	105.39
1	3/29/79	9	51	0.082	0.0136	0.967	6.94	105.45
1	3/29/79	9	57	0.079	0.0127	0.909	7.04	105.55
1	3/29/79	10	12	0.076	0.0119	0.851	7.26	105.77
1	3/29/79	10	17	0.076	0.0119	0.851	7.33	105.84
1	3/29/79	10	32	0.073	0.0111	0.793	7.53	106.04
1	3/29/79	10	44	0.070	0.0103	0.735	7.68	106.20
1	3/29/79	11	2	0.067	0.0095	0.677	7.90	106.41
1	3/29/79	11	17	0.064	0.0087	0.619	8.06	106.57
1	3/29/79	11	38	0.061	0.0079	0.561	8.26	106.78
1	3/29/79	11	52	0.064	0.0087	0.619	8.40	106.92
1	3/29/79	12	29	0.067	0.0095	0.677	8.80	107.32
1	3/29/79	12	39	0.070	0.0103	0.735	8.92	107.43
1	3/29/79	12	42	0.073	0.0111	0.793	8.96	107.47
1	3/29/79	12	44	0.076	0.0119	0.851	8.99	107.50
1	3/29/79	12	45	0.079	0.0127	0.909	9.00	107.51
1	3/29/79	12	46	0.082	0.0136	0.967	9.02	107.53
1	3/29/79	12	48	0.085	0.0144	1.025	9.05	107.56
1	3/29/79	12	50	0.088	0.0152	1.083	9.08	107.60
1	3/29/79	12	52	0.091	0.0160	1.141	9.12	107.63
1	3/29/79	12	54	0.094	0.0171	1.216	9.16	107.67

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	3/29/79	12	56	0.098	0.0181	1.292	9.20	107.72
1	3/29/79	13	0	0.101	0.0192	1.368	9.29	107.80
1	3/29/79	13	3	0.104	0.0202	1.443	9.36	107.87
1	3/29/79	13	8	0.107	0.0213	1.519	9.48	108.00
1	3/29/79	13	13	0.110	0.0224	1.595	9.61	108.13
1	3/29/79	13	24	0.113	0.0234	1.670	9.91	108.43
1	3/29/79	13	31	0.110	0.0224	1.595	10.10	108.62
1	3/29/79	13	38	0.107	0.0213	1.519	10.29	108.80
1	3/29/79	13	45	0.104	0.0202	1.443	10.46	108.97
1	3/29/79	13	50	0.101	0.0192	1.368	10.58	109.09
1	3/29/79	13	56	0.098	0.0181	1.292	10.71	109.22
1	3/29/79	14	1	0.094	0.0171	1.216	10.81	109.33
1	3/29/79	14	7	0.091	0.0160	1.141	10.93	109.44
1	3/29/79	14	13	0.088	0.0152	1.083	11.04	109.55
1	3/29/79	14	21	0.085	0.0144	1.025	11.18	109.70
1	3/29/79	14	27	0.082	0.0136	0.967	11.28	109.79
1	3/29/79	14	34	0.079	0.0127	0.909	11.39	109.90
1	3/29/79	14	40	0.076	0.0119	0.851	11.48	109.99
1	3/29/79	14	57	0.073	0.0111	0.793	11.71	110.23
1	3/29/79	15	8	0.070	0.0103	0.735	11.85	110.37
1	3/29/79	15	20	0.067	0.0095	0.677	11.99	110.51
1	3/29/79	15	28	0.064	0.0087	0.619	12.08	110.59
1	3/29/79	15	42	0.061	0.0079	0.561	12.22	110.73
1	3/29/79	16	12	0.053	0.0073	0.523	12.49	111.00
1	3/29/79	16	26	0.055	0.0068	0.485	12.61	111.12
1	3/29/79	16	40	0.052	0.0063	0.447	12.72	111.23
1	3/29/79	16	53	0.049	0.0057	0.409	12.81	111.32
1	3/29/79	17	9	0.046	0.0052	0.370	12.91	111.42
1	3/29/79	17	56	0.043	0.0047	0.332	13.19	111.70
1	3/29/79	18	9	0.046	0.0052	0.370	13.26	111.78
1	3/29/79	18	17	0.049	0.0057	0.409	13.31	111.83
1	3/29/79	18	19	0.052	0.0063	0.447	13.33	111.84
1	3/29/79	18	22	0.055	0.0068	0.485	13.35	111.87
1	3/29/79	18	34	0.058	0.0073	0.523	13.45	111.97
1	3/29/79	18	56	0.058	0.0073	0.523	13.64	112.16
1	3/29/79	19	9	0.055	0.0068	0.485	13.75	112.27
1	3/29/79	19	20	0.052	0.0063	0.447	13.84	112.35
1	3/29/79	19	34	0.049	0.0057	0.409	13.94	112.45
1	3/29/79	19	46	0.046	0.0052	0.370	14.02	112.53
1	3/29/79	19	48	0.049	0.0057	0.409	14.03	112.54
1	3/29/79	19	49	0.052	0.0063	0.447	14.04	112.55
1	3/29/79	19	50	0.061	0.0079	0.561	14.05	112.56
1	3/29/79	19	51	0.067	0.0095	0.677	14.06	112.57
1	3/29/79	19	52	0.076	0.0119	0.851	14.07	112.58
1	3/29/79	19	53	0.079	0.0127	0.909	14.08	112.60
1	3/29/79	19	54	0.082	0.0136	0.967	14.10	112.61
1	3/29/79	19	56	0.085	0.0144	1.025	14.13	112.64
1	3/29/79	20	4	0.088	0.0152	1.083	14.27	112.79
1	3/29/79	20	5	0.091	0.0160	1.141	14.29	112.80
1	3/29/79	20	6	0.094	0.0171	1.216	14.31	112.82
1	3/29/79	20	7	0.098	0.0181	1.292	14.33	112.84
1	3/29/79	20	8	0.101	0.0192	1.368	14.35	112.87
1	3/29/79	20	9	0.104	0.0202	1.443	14.38	112.89
1	3/29/79	20	10	0.107	0.0213	1.519	14.40	112.91
1	3/29/79	20	11	0.110	0.0224	1.595	14.43	112.94
1	3/29/79	20	16	0.113	0.0234	1.670	14.56	113.08
1	3/29/79	20	23	0.110	0.0224	1.595	14.75	113.27
1	3/29/79	20	26	0.107	0.0213	1.519	14.83	113.34
1	3/29/79	20	30	0.104	0.0202	1.443	14.93	113.44
1	3/29/79	20	33	0.101	0.0192	1.368	15.00	113.51
1	3/29/79	20	37	0.098	0.0181	1.292	15.09	113.60
1	3/29/79	20	39	0.094	0.0171	1.216	15.13	113.64
1	3/29/79	20	42	0.091	0.0160	1.141	15.19	113.70
1	3/29/79	20	45	0.088	0.0152	1.083	15.25	113.76
1	3/29/79	20	49	0.085	0.0144	1.025	15.32	113.83
1	3/29/79	20	52	0.082	0.0136	0.967	15.37	113.88
1	3/29/79	20	56	0.079	0.0127	0.909	15.43	113.94
1	3/29/79	21	0	0.076	0.0119	0.851	15.49	114.00
1	3/29/79	21	5	0.073	0.0111	0.793	15.56	114.07
1	3/29/79	21	9	0.070	0.0103	0.735	15.61	114.12
1	3/29/79	21	14	0.067	0.0095	0.677	15.67	114.18
1	3/29/79	21	19	0.064	0.0087	0.619	15.72	114.23
1	3/29/79	21	25	0.061	0.0079	0.561	15.78	114.29
1	3/29/79	21	32	0.058	0.0073	0.523	15.84	114.35
1	3/29/79	21	40	0.055	0.0068	0.485	15.91	114.42
1	3/29/79	21	47	0.052	0.0063	0.447	15.96	114.48
1	3/29/79	21	56	0.049	0.0057	0.409	16.03	114.54
1	3/29/79	22	6	0.046	0.0052	0.370	16.09	114.60
1	3/29/79	22	27	0.043	0.0047	0.332	16.22	114.73
1	3/29/79	22	34	0.043	0.0047	0.332	16.25	114.77
1	3/29/79	23	1	0.040	0.0041	0.294	16.40	114.91
1	3/29/79	23	24	0.037	0.0036	0.256	16.50	115.01
1	3/29/79	23	39	0.034	0.0031	0.218	16.56	115.07
1	3/29/79	24	0	0.030	0.0025	0.180	16.63	115.14
1	3/30/79	0	25	0.027	0.0023	0.162	16.70	115.21
1	3/30/79	1	4	0.024	0.0020	0.144	16.80	115.31
1	3/30/79	1	40	0.021	0.0018	0.126	16.88	115.39
1	3/30/79	3	1	0.018	0.0015	0.108	17.04	115.55
1	3/30/79	4	40	0.015	0.0013	0.090	17.20	115.71
1	3/30/79	5	35	0.012	0.0010	0.072	17.28	115.79
1	3/30/79	6	17	0.009	0.0008	0.054	17.32	115.83
1	3/30/79	7	10	0.006	0.0005	0.036	17.36	115.87
1	3/30/79	8	17	0.003	0.0003	0.018	17.39	115.90
1	3/30/79	9	0	0.0	0.0	0.0	17.40	115.91
1	4/19/79	7	6	0.0	0.0	0.0	0.0	115.91
1	4/19/79	9	22	0.003	0.0003	0.018	0.02	115.93
1	4/19/79	10	56	0.003	0.0003	0.018	0.05	115.96
1	4/19/79	11	5	0.006	0.0005	0.036	0.05	115.96
1	4/19/79	12	2	0.006	0.0005	0.036	0.09	115.99
1	4/19/79	12	46	0.009	0.0008	0.054	0.12	116.03
1	4/19/79	12	58	0.012	0.0010	0.072	0.13	116.04
1	4/19/79	13	4	0.009	0.0008	0.054	0.14	116.05

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	4/19/79	14	6	0.006	0.0005	0.036	0.18	116.09
1	4/19/79	14	54	0.003	0.0003	0.018	0.21	116.11
1	4/19/79	16	0	0.0	0.0	0.0	22	116.12
1	4/20/79	3	40	0.0	0.0	0.0	0.0	116.12
1	4/20/79	3	41	0.006	0.0005	0.036	0.00	116.12
1	4/20/79	3	42	0.009	0.0008	0.054	0.00	116.13
1	4/20/79	3	53	0.012	0.0010	0.072	0.01	116.14
1	4/20/79	4	23	0.012	0.0010	0.072	0.05	116.17
1	4/20/79	4	26	0.015	0.0013	0.090	0.05	116.18
1	4/20/79	4	27	0.018	0.0015	0.108	0.05	116.18
1	4/20/79	4	28	0.024	0.0020	0.144	0.06	116.18
1	4/20/79	4	29	0.027	0.0023	0.162	0.06	116.18
1	4/20/79	4	30	0.034	0.0031	0.218	0.06	116.19
1	4/20/79	4	32	0.037	0.0036	0.256	0.07	116.19
1	4/20/79	4	35	0.034	0.0031	0.218	0.08	116.21
1	4/20/79	4	36	0.030	0.0025	0.180	0.09	116.21
1	4/20/79	4	37	0.027	0.0023	0.162	0.09	116.21
1	4/20/79	4	39	0.024	0.0020	0.144	0.09	116.22
1	4/20/79	4	41	0.021	0.0018	0.126	0.10	116.22
1	4/20/79	4	43	0.018	0.0015	0.108	0.10	116.23
1	4/20/79	4	49	0.015	0.0013	0.090	0.11	116.24
1	4/20/79	4	57	0.012	0.0010	0.072	0.12	116.25
1	4/20/79	5	14	0.009	0.0008	0.054	0.14	116.26
1	4/20/79	5	40	0.006	0.0005	0.036	0.16	116.28
1	4/20/79	7	3	0.009	0.0008	0.054	0.22	116.35
1	4/20/79	7	13	0.012	0.0010	0.072	0.23	116.36
1	4/20/79	7	23	0.012	0.0010	0.072	0.24	116.37
1	4/20/79	7	38	0.009	0.0008	0.054	0.26	116.38
1	4/20/79	8	22	0.006	0.0005	0.036	0.29	116.42
1	4/20/79	8	58	0.006	0.0005	0.036	0.31	116.44
1	4/20/79	9	16	0.009	0.0008	0.054	0.33	116.45
1	4/20/79	9	24	0.012	0.0010	0.072	0.34	116.46
1	4/20/79	9	47	0.015	0.0013	0.090	0.37	116.49
1	4/20/79	10	9	0.015	0.0013	0.090	0.40	116.52
1	4/20/79	10	24	0.012	0.0010	0.072	0.42	116.54
1	4/20/79	10	55	0.012	0.0010	0.072	0.46	116.58
1	4/20/79	11	5	0.015	0.0013	0.090	0.47	116.59
1	4/20/79	11	13	0.018	0.0015	0.108	0.48	116.61
1	4/20/79	11	16	0.021	0.0018	0.126	0.49	116.61
1	4/20/79	11	18	0.024	0.0020	0.144	0.49	116.62
1	4/20/79	11	23	0.027	0.0023	0.162	0.51	116.63
1	4/20/79	11	31	0.024	0.0020	0.144	0.53	116.65
1	4/20/79	11	38	0.021	0.0018	0.126	0.54	116.67
1	4/20/79	11	46	0.018	0.0015	0.108	0.56	116.68
1	4/20/79	11	58	0.015	0.0013	0.090	0.58	116.70
1	4/20/79	12	3	0.018	0.0015	0.108	0.59	116.71
1	4/20/79	12	9	0.021	0.0018	0.126	0.60	116.72
1	4/20/79	12	28	0.021	0.0018	0.126	0.64	116.76
1	4/20/79	12	30	0.024	0.0020	0.144	0.64	116.77
1	4/20/79	12	31	0.027	0.0023	0.162	0.65	116.77
1	4/20/79	12	32	0.030	0.0025	0.180	0.65	116.77
1	4/20/79	12	33	0.034	0.0031	0.218	0.65	116.78
1	4/20/79	12	34	0.040	0.0041	0.294	0.66	116.78
1	4/20/79	12	35	0.046	0.0052	0.370	0.66	116.78
1	4/20/79	12	36	0.049	0.0057	0.409	0.67	116.79
1	4/20/79	12	37	0.055	0.0068	0.485	0.68	116.80
1	4/20/79	12	38	0.061	0.0079	0.561	0.68	116.81
1	4/20/79	12	39	0.037	0.0036	0.256	0.69	116.81
1	4/20/79	12	40	0.030	0.0025	0.180	0.69	116.82
1	4/20/79	12	42	0.027	0.0023	0.162	0.70	116.82
1	4/20/79	12	45	0.030	0.0025	0.180	0.71	116.83
1	4/20/79	12	46	0.034	0.0031	0.218	0.71	116.84
1	4/20/79	12	48	0.037	0.0036	0.256	0.72	116.84
1	4/20/79	12	49	0.040	0.0041	0.294	0.72	116.85
1	4/20/79	12	54	0.043	0.0047	0.332	0.75	116.87
1	4/20/79	13	5	0.043	0.0047	0.332	0.81	116.94
1	4/20/79	13	15	0.040	0.0041	0.294	0.86	116.99
1	4/20/79	13	38	0.040	0.0041	0.294	0.98	117.10
1	4/20/79	13	42	0.037	0.0036	0.256	0.99	117.12
1	4/20/79	13	45	0.034	0.0031	0.218	1.01	117.13
1	4/20/79	13	47	0.030	0.0025	0.180	1.01	117.14
1	4/20/79	13	52	0.027	0.0023	0.162	1.03	117.15
1	4/20/79	13	57	0.024	0.0020	0.144	1.04	117.16
1	4/20/79	14	4	0.021	0.0018	0.126	1.06	117.18
1	4/20/79	14	14	0.018	0.0015	0.108	1.08	117.20
1	4/20/79	14	29	0.015	0.0013	0.090	1.10	117.22
1	4/20/79	14	45	0.012	0.0010	0.072	1.12	117.25
1	4/20/79	15	4	0.009	0.0008	0.054	1.14	117.26
1	4/20/79	15	30	0.006	0.0005	0.036	1.16	117.28
1	4/20/79	16	30	0.003	0.0003	0.018	1.19	117.31
1	4/20/79	17	0	0.0	0.0	0.0	1.19	117.32
1	6/ 4/79	18	58	0.0	0.0	0.0	0.0	117.32
1	6/ 4/79	18	59	0.037	0.0036	0.256	0.00	117.32
1	6/ 4/79	19	0	0.064	0.0087	0.619	0.01	117.33
1	6/ 4/79	19	1	0.082	0.0136	0.967	0.02	117.34
1	6/ 4/79	19	2	0.098	0.0181	1.292	0.04	117.36
1	6/ 4/79	19	3	0.113	0.0234	1.670	0.07	117.38
1	6/ 4/79	19	4	0.122	0.0266	1.898	0.10	117.41
1	6/ 4/79	19	5	0.128	0.0293	2.091	0.13	117.44
1	6/ 4/79	19	6	0.131	0.0307	2.188	0.16	117.48
1	6/ 4/79	19	7	0.131	0.0307	2.188	0.20	117.52
1	6/ 4/79	19	8	0.134	0.0321	2.285	0.24	117.55
1	6/ 4/79	19	9	0.149	0.0389	2.770	0.28	117.60
1	6/ 4/79	19	10	0.171	0.0502	3.581	0.33	117.65
1	6/ 4/79	19	11	0.180	0.0552	3.938	0.40	117.71
1	6/ 4/79	19	12	0.183	0.0569	4.057	0.46	117.78
1	6/ 4/79	19	13	0.177	0.0536	3.819	0.53	117.84
1	6/ 4/79	19	14	0.168	0.0486	3.462	0.59	117.90
1	6/ 4/79	19	15	0.158	0.0436	3.105	0.64	117.96
1	6/ 4/79	19	18	0.134	0.0321	2.285	0.78	118.09

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	6/ 4/79	19	20	0.116	0.0245	1.746	0.85	118.16
1	6/ 4/79	19	26	0.082	0.0136	0.967	0.98	118.30
1	6/ 4/79	19	30	0.064	0.0087	0.619	1.03	118.35
1	6/ 4/79	19	36	0.049	0.0057	0.409	1.09	118.40
1	6/ 4/79	19	45	0.030	0.0025	0.180	1.13	118.45
1	6/ 4/79	19	49	0.024	0.0020	0.144	1.14	118.46
1	6/ 4/79	19	55	0.018	0.0015	0.108	1.15	118.47
1	6/ 4/79	20	2	0.012	0.0010	0.072	1.16	118.48
1	6/ 4/79	20	13	0.006	0.0005	0.036	1.17	118.49
1	6/ 4/79	20	16	0.0	0.0	0.0	1.17	118.49
1	6/ 9/79	10	51	0.0	0.0	0.0	0.0	118.49
1	6/ 9/79	11	0	0.003	0.0003	0.018	0.00	118.49
1	6/ 9/79	11	5	0.006	0.0005	0.036	0.00	118.49
1	6/ 9/79	11	6	0.009	0.0008	0.054	0.00	118.49
1	6/ 9/79	11	7	0.012	0.0010	0.072	0.01	118.50
1	6/ 9/79	11	9	0.015	0.0013	0.090	0.01	118.50
1	6/ 9/79	11	11	0.018	0.0015	0.108	0.01	118.50
1	6/ 9/79	11	15	0.015	0.0013	0.090	0.02	118.51
1	6/ 9/79	11	19	0.012	0.0010	0.072	0.02	118.51
1	6/ 9/79	11	22	0.009	0.0008	0.054	0.03	118.52
1	6/ 9/79	11	26	0.006	0.0005	0.036	0.03	118.52
1	6/ 9/79	11	37	0.003	0.0003	0.018	0.03	118.52
1	6/ 9/79	11	40	0.0	0.0	0.0	0.03	118.52
1	6/12/79	17	47	0.0	0.0	0.0	0.0	118.52
1	6/12/79	17	56	0.232	0.0907	6.464	0.48	119.01
1	6/12/79	17	57	0.259	0.1134	8.085	0.61	119.13
1	6/12/79	17	58	0.268	0.1215	8.660	0.75	119.27
1	6/12/79	17	59	0.262	0.1161	8.276	0.89	119.41
1	6/12/79	18	0	0.247	0.1026	7.318	1.02	119.54
1	6/12/79	18	1	0.226	0.0860	6.133	1.13	119.65
1	6/12/79	18	2	0.207	0.0728	5.188	1.22	119.75
1	6/12/79	18	3	0.198	0.0668	4.764	1.31	119.83
1	6/12/79	18	4	0.195	0.0648	4.623	1.38	119.91
1	6/12/79	18	5	0.244	0.1000	7.126	1.48	120.01
1	6/12/79	18	6	0.347	0.2061	14.696	1.66	120.19
1	6/12/79	18	8	0.732	1.0336	73.680	3.14	121.66
1	6/12/79	18	9	0.802	1.2677	90.374	4.50	123.03
1	6/12/79	18	10	0.853	1.4611	104.161	6.13	124.65
1	6/12/79	18	11	0.927	1.7619	125.599	8.04	126.56
1	6/12/79	18	12	1.052	2.3560	167.950	10.49	129.01
1	6/12/79	18	13	1.036	2.2795	162.500	13.24	131.76
1	6/12/79	18	14	1.018	2.1861	155.838	15.89	134.42
1	6/12/79	18	15	0.997	2.0813	148.369	18.43	136.95
1	6/12/79	18	16	0.978	1.9963	142.313	20.85	139.37
1	6/12/79	18	17	0.951	1.8712	133.391	23.15	141.67
1	6/12/79	18	18	0.930	1.7755	126.568	25.31	143.84
1	6/12/79	18	19	0.896	1.6327	116.394	27.34	145.86
1	6/12/79	18	20	0.860	1.4855	105.897	29.19	147.72
1	6/12/79	18	21	0.799	1.2567	89.587	30.82	149.34
1	6/12/79	18	22	0.707	0.9565	68.189	32.13	150.66
1	6/12/79	18	23	0.588	0.6366	45.379	33.08	151.61
1	6/12/79	18	27	0.354	0.2135	15.220	35.10	153.63
1	6/12/79	18	28	0.326	0.1812	12.919	35.34	153.86
1	6/12/79	18	29	0.287	0.1391	9.915	35.53	154.05
1	6/12/79	18	30	0.247	0.1026	7.318	35.67	154.19
1	6/12/79	18	31	0.223	0.0837	5.967	35.78	154.30
1	6/12/79	18	32	0.192	0.0629	4.481	35.87	154.39
1	6/12/79	18	33	0.177	0.0536	3.819	35.94	154.46
1	6/12/79	18	34	0.149	0.0389	2.770	35.99	154.52
1	6/12/79	18	35	0.131	0.0307	2.188	36.03	154.56
1	6/12/79	18	36	0.116	0.0245	1.746	36.07	154.59
1	6/12/79	18	37	0.104	0.0202	1.443	36.09	154.62
1	6/12/79	18	38	0.091	0.0160	1.141	36.11	154.64
1	6/12/79	18	39	0.082	0.0136	0.967	36.13	154.66
1	6/12/79	18	40	0.073	0.0111	0.793	36.15	154.67
1	6/12/79	18	41	0.064	0.0087	0.619	36.16	154.68
1	6/12/79	18	42	0.058	0.0073	0.523	36.17	154.69
1	6/12/79	18	45	0.040	0.0041	0.294	36.19	154.71
1	6/12/79	18	46	0.037	0.0036	0.256	36.19	154.72
1	6/12/79	18	48	0.024	0.0020	0.144	36.20	154.72
1	6/12/79	18	49	0.021	0.0018	0.126	36.20	154.73
1	6/12/79	18	51	0.012	0.0010	0.072	36.20	154.73
1	6/12/79	18	53	0.006	0.0005	0.036	36.21	154.73
1	6/12/79	18	55	0.003	0.0003	0.018	36.21	154.73
1	6/12/79	19	4	0.0	0.0	0.0	36.21	154.73
1	6/19/79	22	26	0.0	0.0	0.0	0.0	154.73
1	6/19/79	22	27	0.018	0.0015	0.108	0.00	154.73
1	6/19/79	22	28	0.030	0.0025	0.180	0.00	154.74
1	6/19/79	22	29	0.049	0.0057	0.409	0.01	154.74
1	6/19/79	22	30	0.070	0.0103	0.735	0.02	154.75
1	6/19/79	22	31	0.082	0.0136	0.967	0.03	154.76
1	6/19/79	22	32	0.091	0.0160	1.141	0.05	154.78
1	6/19/79	22	33	0.101	0.0192	1.368	0.07	154.80
1	6/19/79	22	34	0.107	0.0213	1.519	0.09	154.83
1	6/19/79	22	35	0.119	0.0256	1.822	0.12	154.86
1	6/19/79	22	37	0.125	0.0280	1.994	0.19	154.92
1	6/19/79	22	39	0.122	0.0266	1.898	0.25	154.98
1	6/19/79	22	40	0.119	0.0256	1.822	0.28	155.01
1	6/19/79	22	41	0.113	0.0234	1.670	0.31	155.04
1	6/19/79	22	42	0.104	0.0202	1.443	0.34	155.07
1	6/19/79	22	43	0.098	0.0181	1.292	0.36	155.09
1	6/19/79	22	44	0.088	0.0152	1.083	0.38	155.11
1	6/19/79	22	45	0.082	0.0136	0.967	0.40	155.13
1	6/19/79	22	46	0.076	0.0119	0.851	0.41	155.14
1	6/19/79	22	47	0.070	0.0103	0.735	0.42	155.16
1	6/19/79	22	48	0.064	0.0087	0.619	0.44	155.17
1	6/19/79	22	49	0.058	0.0073	0.523	0.45	155.18
1	6/19/79	22	50	0.052	0.0063	0.447	0.45	155.19

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	6/19/79	22	51	0.046	0.0052	0.370	0.46	155.19
1	6/19/79	22	52	0.043	0.0047	0.332	0.47	155.20
1	6/19/79	22	53	0.037	0.0036	0.256	0.47	155.20
1	6/19/79	22	54	0.030	0.0025	0.180	0.47	155.21
1	6/19/79	22	55	0.027	0.0023	0.162	0.48	155.21
1	6/19/79	22	56	0.024	0.0020	0.144	0.48	155.21
1	6/19/79	22	57	0.021	0.0018	0.126	0.48	155.22
1	6/19/79	22	58	0.018	0.0015	0.108	0.48	155.22
1	6/19/79	22	59	0.015	0.0013	0.090	0.49	155.22
1	6/19/79	23	1	0.012	0.0010	0.072	0.49	155.22
1	6/19/79	23	2	0.009	0.0008	0.054	0.49	155.22
1	6/19/79	23	5	0.0	0.0	0.0	0.49	155.22
1	6/27/79	0	10	0.0	0.0	0.0	0.0	155.22
1	6/27/79	0	11	0.009	0.0008	0.054	0.00	155.22
1	6/27/79	0	12	0.049	0.0057	0.409	0.00	155.23
1	6/27/79	0	13	0.098	0.0181	1.292	0.02	155.24
1	6/27/79	0	14	0.168	0.0486	3.462	0.06	155.28
1	6/27/79	0	15	0.241	0.0976	6.960	0.14	155.37
1	6/27/79	0	16	0.634	0.7493	53.413	0.65	155.87
1	6/27/79	0	17	0.671	0.8495	60.559	1.60	156.82
1	6/27/79	0	18	0.692	0.9110	64.939	2.64	157.87
1	6/27/79	0	19	0.677	0.8671	61.810	3.70	158.92
1	6/27/79	0	20	0.643	0.7730	55.108	4.67	159.90
1	6/27/79	0	21	0.597	0.6586	46.953	5.52	160.75
1	6/27/79	0	22	0.552	0.5508	39.262	6.24	161.47
1	6/27/79	0	23	0.500	0.4457	31.773	6.84	162.06
1	6/27/79	0	24	0.469	0.3896	27.776	7.33	162.56
1	6/27/79	0	25	0.436	0.3324	23.699	7.76	162.98
1	6/27/79	0	26	0.396	0.2704	19.278	8.12	163.34
1	6/27/79	0	27	0.363	0.2246	16.008	8.41	163.64
1	6/27/79	0	28	0.338	0.1951	13.908	8.66	163.89
1	6/27/79	0	29	0.317	0.1710	12.192	8.88	164.10
1	6/27/79	0	30	0.283	0.1360	9.697	9.06	164.29
1	6/27/79	0	31	0.263	0.1215	8.660	9.21	164.44
1	6/27/79	0	32	0.253	0.1080	7.701	9.35	164.57
1	6/27/79	0	33	0.244	0.1000	7.126	9.47	164.70
1	6/27/79	0	34	0.238	0.0953	6.795	9.59	164.81
1	6/27/79	0	35	0.232	0.0907	6.464	9.70	164.92
1	6/27/79	0	36	0.226	0.0860	6.133	9.81	165.03
1	6/27/79	0	37	0.223	0.0837	5.967	9.91	165.13
1	6/27/79	0	38	0.219	0.0814	5.802	10.00	165.23
1	6/27/79	0	40	0.216	0.0791	5.636	10.20	165.42
1	6/27/79	0	41	0.219	0.0814	5.802	10.29	165.51
1	6/27/79	0	42	0.223	0.0837	5.967	10.39	165.61
1	6/27/79	0	43	0.226	0.0860	6.133	10.49	165.71
1	6/27/79	0	44	0.232	0.0907	6.464	10.59	165.82
1	6/27/79	0	45	0.235	0.0930	6.629	10.70	165.93
1	6/27/79	0	46	0.241	0.0976	6.960	10.82	166.04
1	6/27/79	0	47	0.247	0.1026	7.318	10.94	166.16
1	6/27/79	0	48	0.253	0.1080	7.701	11.06	166.28
1	6/27/79	0	49	0.262	0.1161	8.276	11.19	166.42
1	6/27/79	0	50	0.274	0.1269	9.043	11.34	166.56
1	6/27/79	0	51	0.283	0.1360	9.697	11.49	166.72
1	6/27/79	0	52	0.287	0.1391	9.915	11.65	166.88
1	6/27/79	0	53	0.293	0.1452	10.352	11.83	167.05
1	6/27/79	0	54	0.290	0.1422	10.134	12.00	167.22
1	6/27/79	0	55	0.271	0.1242	8.852	12.16	167.38
1	6/27/79	0	56	0.250	0.1053	7.509	12.29	167.52
1	6/27/79	0	57	0.226	0.0860	6.133	12.41	167.63
1	6/27/79	0	58	0.201	0.0688	4.905	12.50	167.72
1	6/27/79	0	59	0.183	0.0569	4.057	12.57	167.80
1	6/27/79	1	0	0.165	0.0469	3.343	12.63	167.86
1	6/27/79	1	1	0.140	0.0348	2.479	12.68	167.91
1	6/27/79	1	2	0.122	0.0266	1.898	12.72	167.94
1	6/27/79	1	3	0.107	0.0213	1.519	12.75	167.97
1	6/27/79	1	4	0.094	0.0171	1.216	12.77	167.99
1	6/27/79	1	5	0.085	0.0144	1.025	12.79	168.01
1	6/27/79	1	6	0.076	0.0119	0.851	12.81	168.03
1	6/27/79	1	7	0.067	0.0095	0.677	12.82	168.04
1	6/27/79	1	8	0.058	0.0073	0.523	12.83	168.05
1	6/27/79	1	9	0.049	0.0057	0.409	12.84	168.06
1	6/27/79	1	10	0.043	0.0047	0.332	12.84	168.07
1	6/27/79	1	11	0.037	0.0036	0.256	12.85	168.07
1	6/27/79	1	12	0.030	0.0025	0.180	12.85	168.07
1	6/27/79	1	13	0.024	0.0020	0.144	12.85	168.08
1	6/27/79	1	14	0.021	0.0018	0.126	12.86	168.08
1	6/27/79	1	15	0.015	0.0013	0.090	12.86	168.08
1	6/27/79	1	16	0.012	0.0010	0.072	12.86	168.08
1	6/27/79	1	17	0.009	0.0008	0.054	12.86	168.08
1	6/27/79	1	18	0.006	0.0005	0.036	12.86	168.08
1	6/27/79	1	20	0.003	0.0003	0.018	12.86	168.08
1	6/27/79	1	23	0.0	0.0	0.0	12.86	168.08
1	7/ 3/79	7	57	0.0	0.0	0.0	0.0	168.08
1	7/ 3/79	7	58	0.006	0.0005	0.036	0.00	168.09
1	7/ 3/79	7	59	0.018	0.0015	0.108	0.00	168.09
1	7/ 3/79	8	0	0.037	0.0036	0.256	0.00	168.09
1	7/ 3/79	8	1	0.040	0.0041	0.294	0.01	168.09
1	7/ 3/79	8	2	0.043	0.0047	0.332	0.01	168.10
1	7/ 3/79	8	3	0.046	0.0052	0.370	0.02	168.10
1	7/ 3/79	8	4	0.055	0.0068	0.485	0.03	168.11
1	7/ 3/79	8	5	0.061	0.0079	0.561	0.04	168.12
1	7/ 3/79	8	7	0.067	0.0095	0.677	0.06	168.14
1	7/ 3/79	8	8	0.073	0.0111	0.793	0.07	168.15
1	7/ 3/79	8	9	0.076	0.0119	0.851	0.08	168.17
1	7/ 3/79	8	10	0.082	0.0136	0.967	0.10	168.18
1	7/ 3/79	8	11	0.091	0.0160	1.141	0.12	168.20
1	7/ 3/79	8	12	0.098	0.0181	1.292	0.14	168.22
1	7/ 3/79	8	13	0.101	0.0192	1.368	0.16	168.24
1	7/ 3/79	8	15	0.101	0.0192	1.368	0.20	168.29
1	7/ 3/79	8	17	0.098	0.0181	1.292	0.25	168.33

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	7/ 3/79	8	19	0.091	0.0160	1.141	0.29	168.37
1	7/ 3/79	8	20	0.085	0.0144	1.025	0.31	168.39
1	7/ 3/79	8	21	0.076	0.0119	0.851	0.32	168.41
1	7/ 3/79	8	22	0.067	0.0095	0.677	0.33	168.42
1	7/ 3/79	8	23	0.061	0.0079	0.561	0.34	168.43
1	7/ 3/79	8	24	0.055	0.0068	0.485	0.35	168.44
1	7/ 3/79	8	25	0.046	0.0052	0.370	0.36	168.45
1	7/ 3/79	8	26	0.040	0.0041	0.294	0.37	168.45
1	7/ 3/79	8	27	0.030	0.0025	0.180	0.37	168.45
1	7/ 3/79	8	28	0.024	0.0020	0.144	0.37	168.46
1	7/ 3/79	8	29	0.018	0.0015	0.108	0.38	168.46
1	7/ 3/79	8	30	0.012	0.0010	0.072	0.38	168.46
1	7/ 3/79	8	31	0.009	0.0008	0.054	0.38	168.46
1	7/ 3/79	8	32	0.006	0.0005	0.036	0.38	168.46
1	7/ 3/79	8	33	0.003	0.0003	0.018	0.38	168.46
1	7/ 3/79	8	34	0.0	0.0	0.0	0.38	168.46
1	7/ 3/79	8	44	0.0	0.0	0.0	0.38	168.46
1	7/ 3/79	8	45	0.034	0.0031	0.218	0.38	168.47
1	7/ 3/79	8	46	0.079	0.0127	0.909	0.39	168.47
1	7/ 3/79	8	47	0.128	0.0293	2.091	0.42	168.50
1	7/ 3/79	8	48	0.174	0.0519	3.700	0.46	168.55
1	7/ 3/79	8	49	0.216	0.0791	5.636	0.54	168.63
1	7/ 3/79	8	50	0.262	0.1161	8.276	0.66	168.74
1	7/ 3/79	8	51	0.329	0.1846	13.161	0.84	168.92
1	7/ 3/79	8	52	0.387	0.2578	18.376	1.10	169.18
1	7/ 3/79	8	53	0.415	0.2985	21.276	1.43	169.51
1	7/ 3/79	8	54	0.408	0.2891	20.610	1.78	169.86
1	7/ 3/79	8	55	0.396	0.2704	19.278	2.11	170.19
1	7/ 3/79	8	56	0.390	0.2620	18.676	2.43	170.51
1	7/ 3/79	8	57	0.375	0.2409	17.172	2.73	170.81
1	7/ 3/79	8	58	0.357	0.2172	15.483	3.00	171.08
1	7/ 3/79	8	59	0.338	0.1951	13.908	3.24	171.33
1	7/ 3/79	9	0	0.326	0.1812	12.919	3.47	171.55
1	7/ 3/79	9	1	0.320	0.1744	12.435	3.68	171.76
1	7/ 3/79	9	2	0.311	0.1642	11.708	3.88	171.96
1	7/ 3/79	9	3	0.296	0.1483	10.570	4.06	172.15
1	7/ 3/79	9	4	0.280	0.1330	9.479	4.23	172.32
1	7/ 3/79	9	5	0.271	0.1242	8.852	4.38	172.47
1	7/ 3/79	9	6	0.265	0.1188	8.468	4.53	172.61
1	7/ 3/79	9	7	0.259	0.1134	8.085	4.67	172.75
1	7/ 3/79	9	8	0.250	0.1053	7.509	4.80	172.88
1	7/ 3/79	9	9	0.238	0.0953	6.795	4.92	173.00
1	7/ 3/79	9	10	0.223	0.0837	5.967	5.02	173.11
1	7/ 3/79	9	11	0.207	0.0728	5.188	5.11	173.20
1	7/ 3/79	9	12	0.192	0.0629	4.481	5.20	173.28
1	7/ 3/79	9	13	0.180	0.0552	3.938	5.27	173.35
1	7/ 3/79	9	14	0.168	0.0486	3.462	5.33	173.41
1	7/ 3/79	9	15	0.155	0.0419	2.986	5.38	173.47
1	7/ 3/79	9	16	0.146	0.0375	2.673	5.43	173.51
1	7/ 3/79	9	17	0.140	0.0348	2.479	5.47	173.56
1	7/ 3/79	9	18	0.134	0.0321	2.285	5.51	173.60
1	7/ 3/79	9	19	0.125	0.0280	1.994	5.55	173.63
1	7/ 3/79	9	20	0.116	0.0245	1.746	5.58	173.66
1	7/ 3/79	9	22	0.110	0.0224	1.595	5.63	173.72
1	7/ 3/79	9	23	0.122	0.0266	1.898	5.66	173.75
1	7/ 3/79	9	24	0.143	0.0361	2.576	5.70	173.78
1	7/ 3/79	9	25	0.180	0.0552	3.938	5.75	173.84
1	7/ 3/79	9	26	0.216	0.0791	5.636	5.83	173.92
1	7/ 3/79	9	27	0.262	0.1161	8.276	5.95	174.03
1	7/ 3/79	9	28	0.329	0.1846	13.161	6.13	174.21
1	7/ 3/79	9	29	0.448	0.3528	25.152	6.45	174.53
1	7/ 3/79	9	30	0.546	0.5375	38.314	6.98	175.06
1	7/ 3/79	9	31	0.576	0.6074	43.300	7.66	175.74
1	7/ 3/79	9	32	0.616	0.7034	50.143	8.44	176.52
1	7/ 3/79	9	33	0.643	0.7730	55.108	9.31	177.40
1	7/ 3/79	9	34	0.664	0.8325	59.348	10.27	178.35
1	7/ 3/79	9	35	0.701	0.9373	66.816	11.32	179.40
1	7/ 3/79	9	36	0.738	1.0528	75.052	12.50	180.58
1	7/ 3/79	9	37	0.756	1.1106	79.170	13.78	181.87
1	7/ 3/79	9	38	0.768	1.1508	82.037	15.13	183.21
1	7/ 3/79	9	39	0.774	1.1718	83.531	16.51	184.59
1	7/ 3/79	9	40	0.768	1.1508	82.037	17.89	185.97
1	7/ 3/79	9	41	0.756	1.1106	79.170	19.23	187.32
1	7/ 3/79	9	42	0.768	1.1508	82.037	20.57	188.66
1	7/ 3/79	9	43	0.789	1.2241	87.265	21.99	190.07
1	7/ 3/79	9	44	0.811	1.3009	92.736	23.49	191.57
1	7/ 3/79	9	46	0.792	1.2346	88.012	26.50	194.58
1	7/ 3/79	9	47	0.725	1.0143	72.307	27.83	195.92
1	7/ 3/79	9	48	0.640	0.7646	54.503	28.89	196.97
1	7/ 3/79	9	49	0.555	0.5578	39.767	29.68	197.76
1	7/ 3/79	9	50	0.500	0.4457	31.773	30.27	198.36
1	7/ 3/79	9	51	0.445	0.3477	24.789	30.74	198.83
1	7/ 3/79	9	52	0.378	0.2451	17.473	31.10	199.18
1	7/ 3/79	9	53	0.338	0.1951	13.908	31.36	199.44
1	7/ 3/79	9	54	0.311	0.1642	11.708	31.57	199.65
1	7/ 3/79	9	55	0.262	0.1161	8.276	31.74	199.82
1	7/ 3/79	9	56	0.229	0.0883	6.298	31.86	199.94
1	7/ 3/79	9	57	0.195	0.0648	4.623	31.95	200.03
1	7/ 3/79	9	58	0.171	0.0502	3.581	32.02	200.10
1	7/ 3/79	9	59	0.143	0.0361	2.576	32.07	200.15
1	7/ 3/79	10	0	0.125	0.0280	1.994	32.11	200.19
1	7/ 3/79	10	1	0.110	0.0224	1.595	32.14	200.22
1	7/ 3/79	10	2	0.094	0.0171	1.216	32.16	200.25
1	7/ 3/79	10	3	0.082	0.0136	0.967	32.18	200.26
1	7/ 3/79	10	4	0.070	0.0103	0.735	32.19	200.28
1	7/ 3/79	10	5	0.058	0.0073	0.523	32.20	200.29
1	7/ 3/79	10	6	0.046	0.0052	0.370	32.21	200.30
1	7/ 3/79	10	7	0.040	0.0041	0.294	32.22	200.30
1	7/ 3/79	10	8	0.030	0.0025	0.180	32.22	200.30
1	7/ 3/79	10	9	0.024	0.0020	0.144	32.22	200.31
1	7/ 3/79	10	10	0.018	0.0015	0.108	32.23	200.31
1	7/ 3/79	10	11	0.012	0.0010	0.072	32.23	200.31
1	7/ 3/79	10	12	0.006	0.0005	0.036	32.23	200.31
1	7/ 3/79	10	15	0.003	0.0003	0.018	32.23	200.31

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	7/ 3/79	19	22	0.0	0.0	0.0	32.23	200.31
1	7/ 3/79	20	48	0.0	0.0	0.0	0.0	200.31
1	7/ 3/79	20	49	0.018	0.0015	0.108	0.00	200.32
1	7/ 3/79	20	50	0.055	0.0068	0.485	0.01	200.32
1	7/ 3/79	20	51	0.076	0.0119	0.851	0.02	200.33
1	7/ 3/79	20	52	0.116	0.0245	1.746	0.04	200.35
1	7/ 3/79	20	53	0.158	0.0436	3.105	0.08	200.39
1	7/ 3/79	20	54	0.195	0.0648	4.623	0.14	200.46
1	7/ 3/79	20	55	0.235	0.0930	6.629	0.24	200.55
1	7/ 3/79	20	56	0.283	0.1360	9.697	0.37	200.69
1	7/ 3/79	20	57	0.335	0.1914	13.646	0.57	200.98
1	7/ 3/79	20	58	0.351	0.2098	14.958	0.81	201.12
1	7/ 3/79	20	59	0.335	0.1914	13.646	1.04	201.36
1	7/ 3/79	21	0	0.320	0.1744	12.435	1.26	201.58
1	7/ 3/79	21	1	0.283	0.1360	9.697	1.45	201.76
1	7/ 3/79	21	2	0.250	0.1053	7.509	1.59	201.90
1	7/ 3/79	21	3	0.223	0.0837	5.967	1.70	202.02
1	7/ 3/79	21	4	0.192	0.0629	4.481	1.79	202.10
1	7/ 3/79	21	5	0.174	0.0519	3.700	1.86	202.17
1	7/ 3/79	21	6	0.152	0.0402	2.866	1.91	202.23
1	7/ 3/79	21	7	0.134	0.0321	2.285	1.95	202.27
1	7/ 3/79	21	8	0.116	0.0245	1.746	1.99	202.30
1	7/ 3/79	21	9	0.101	0.0192	1.368	2.01	202.33
1	7/ 3/79	21	10	0.085	0.0144	1.025	2.03	202.35
1	7/ 3/79	21	11	0.073	0.0111	0.793	2.05	202.36
1	7/ 3/79	21	12	0.064	0.0087	0.619	2.06	202.38
1	7/ 3/79	21	13	0.055	0.0068	0.485	2.07	202.38
1	7/ 3/79	21	14	0.046	0.0052	0.370	2.08	202.39
1	7/ 3/79	21	15	0.037	0.0036	0.256	2.08	202.40
1	7/ 3/79	21	16	0.030	0.0025	0.180	2.09	202.40
1	7/ 3/79	21	17	0.024	0.0020	0.144	2.09	202.40
1	7/ 3/79	21	18	0.015	0.0013	0.090	2.09	202.41
1	7/ 3/79	21	19	0.012	0.0010	0.072	2.09	202.41
1	7/ 3/79	21	20	0.009	0.0008	0.054	2.09	202.41
1	7/ 3/79	21	21	0.006	0.0005	0.036	2.09	202.41
1	7/ 3/79	21	23	0.003	0.0003	0.018	2.10	202.41
1	7/ 3/79	21	26	0.006	0.0005	0.036	2.10	202.41
1	7/ 3/79	21	31	0.006	0.0005	0.036	2.10	202.41
1	7/ 3/79	21	36	0.003	0.0003	0.018	2.10	202.42
1	7/ 3/79	21	39	0.0	0.0	0.0	2.10	202.42
1	7/13/79	9	52	0.0	0.0	0.0	0.0	202.42
1	7/13/79	9	53	0.006	0.0005	0.036	0.00	202.42
1	7/13/79	9	54	0.012	0.0010	0.072	0.00	202.42
1	7/13/79	9	56	0.009	0.0008	0.054	0.00	202.42
1	7/13/79	9	57	0.006	0.0005	0.036	0.00	202.42
1	7/13/79	9	59	0.003	0.0003	0.018	0.00	202.42
1	7/13/79	10	1	0.006	0.0005	0.036	0.01	202.42
1	7/13/79	10	3	0.009	0.0008	0.054	0.01	202.42
1	7/13/79	10	7	0.006	0.0005	0.036	0.01	202.43
1	7/13/79	10	9	0.0	0.0	0.0	0.01	202.43
1	7/13/79	20	2	0.0	0.0	0.0	0.01	202.43
1	7/13/79	20	3	0.030	0.0025	0.180	0.01	202.43
1	7/13/79	20	4	0.064	0.0087	0.619	0.02	202.44
1	7/13/79	20	5	0.094	0.0171	1.216	0.03	202.45
1	7/13/79	20	6	0.137	0.0334	2.382	0.06	202.48
1	7/13/79	20	7	0.195	0.0648	4.623	0.12	202.54
1	7/13/79	20	8	0.244	0.1000	7.126	0.22	202.64
1	7/13/79	20	9	0.287	0.1391	9.915	0.36	202.78
1	7/13/79	20	10	0.448	0.3528	25.152	0.65	203.07
1	7/13/79	20	11	0.494	0.4338	30.925	1.12	203.54
1	7/13/79	20	12	0.448	0.3528	25.152	1.59	204.01
1	7/13/79	20	13	0.411	0.2938	20.943	1.97	204.39
1	7/13/79	20	14	0.372	0.2367	16.872	2.29	204.70
1	7/13/79	20	15	0.341	0.1988	14.171	2.55	204.96
1	7/13/79	20	16	0.314	0.1676	11.950	2.77	205.18
1	7/13/79	20	17	0.259	0.1134	8.085	2.93	205.35
1	7/13/79	20	18	0.219	0.0814	5.802	3.05	205.46
1	7/13/79	20	19	0.189	0.0609	4.340	3.13	205.55
1	7/13/79	20	20	0.162	0.0452	3.224	3.20	205.61
1	7/13/79	20	21	0.137	0.0334	2.382	3.24	205.66
1	7/13/79	20	22	0.116	0.0245	1.746	3.28	205.69
1	7/13/79	20	23	0.098	0.0181	1.292	3.30	205.72
1	7/13/79	20	24	0.079	0.0127	0.909	3.32	205.74
1	7/13/79	20	25	0.064	0.0087	0.619	3.33	205.75
1	7/13/79	20	26	0.049	0.0057	0.409	3.34	205.76
1	7/13/79	20	27	0.037	0.0036	0.256	3.35	205.76
1	7/13/79	20	28	0.030	0.0025	0.180	3.35	205.77
1	7/13/79	20	29	0.021	0.0018	0.126	3.35	205.77
1	7/13/79	20	30	0.015	0.0013	0.090	3.35	205.77
1	7/13/79	20	31	0.012	0.0010	0.072	3.36	205.77
1	7/13/79	20	32	0.009	0.0008	0.054	3.36	205.77
1	7/13/79	20	33	0.006	0.0005	0.036	3.36	205.77
1	7/13/79	20	36	0.003	0.0003	0.018	3.36	205.78
1	7/13/79	20	44	0.0	0.0	0.0	3.36	205.78
1	7/14/79	0	45	0.0	0.0	0.0	3.36	205.78
1	7/14/79	0	46	0.006	0.0005	0.036	3.36	205.78
1	7/14/79	0	47	0.043	0.0047	0.332	3.36	205.78
1	7/14/79	0	48	0.082	0.0136	0.967	3.37	205.79
1	7/14/79	0	49	0.140	0.0348	2.479	3.40	205.82
1	7/14/79	0	50	0.201	0.0688	4.905	3.47	205.88
1	7/14/79	0	51	0.259	0.1134	8.085	3.57	205.99
1	7/14/79	0	52	0.622	0.7187	51.233	4.07	206.48
1	7/14/79	0	53	0.658	0.8155	58.136	4.98	207.39
1	7/14/79	0	54	0.683	0.8846	63.062	5.99	208.40
1	7/14/79	0	55	0.671	0.8495	60.559	7.02	209.43
1	7/14/79	0	56	0.646	0.7815	55.714	7.99	210.40
1	7/14/79	0	57	0.597	0.6586	46.953	8.84	211.26
1	7/14/79	0	58	0.549	0.5437	38.758	9.56	211.97
1	7/14/79	0	59	0.524	0.4938	35.205	10.17	212.59
1	7/14/79	1	0	0.494	0.4338	30.925	10.73	213.14

TABLE 01- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	7/14/79	1	1	0.457	0.3681	26.242	11.20	213.62
1	7/14/79	1	2	0.411	0.2938	20.943	11.59	214.01
1	7/14/79	1	3	0.390	0.2620	18.676	11.93	214.34
1	7/14/79	1	4	0.378	0.2451	17.473	12.23	214.64
1	7/14/79	1	5	0.366	0.2282	16.270	12.51	214.92
1	7/14/79	1	6	0.372	0.2367	16.872	12.78	215.20
1	7/14/79	1	7	0.387	0.2578	18.376	13.08	215.49
1	7/14/79	1	8	0.421	0.3078	21.942	13.41	215.83
1	7/14/79	1	9	0.488	0.4219	30.078	13.85	216.26
1	7/14/79	1	11	0.494	0.4338	30.925	14.86	217.28
1	7/14/79	1	12	0.515	0.4754	33.893	15.40	217.82
1	7/14/79	1	13	0.533	0.5125	36.537	15.99	218.41
1	7/14/79	1	14	0.579	0.6145	43.804	16.66	219.08
1	7/14/79	1	15	0.634	0.7493	53.413	17.47	219.89
1	7/14/79	1	16	0.658	0.8155	58.136	18.40	220.82
1	7/14/79	1	17	0.646	0.7815	55.714	19.35	221.76
1	7/14/79	1	18	0.585	0.6292	44.854	20.19	222.60
1	7/14/79	1	19	0.543	0.5312	37.869	20.88	223.29
1	7/14/79	1	20	0.509	0.4635	33.045	21.47	223.88
1	7/14/79	1	21	0.460	0.3735	26.626	21.96	224.38
1	7/14/79	1	22	0.411	0.2938	20.943	22.36	224.78
1	7/14/79	1	23	0.375	0.2409	17.172	22.68	225.09
1	7/14/79	1	24	0.344	0.2025	14.433	22.94	225.36
1	7/14/79	1	25	0.323	0.1778	12.677	23.17	225.58
1	7/14/79	1	26	0.274	0.1269	9.043	23.35	225.76
1	7/14/79	1	27	0.543	0.5312	37.869	23.74	226.16
1	7/14/79	1	28	0.518	0.4814	34.317	24.34	226.76
1	7/14/79	1	29	0.506	0.4576	32.621	24.90	227.31
1	7/14/79	1	31	0.512	0.4695	33.469	26.00	228.42
1	7/14/79	1	32	0.518	0.4814	34.317	26.57	228.98
1	7/14/79	1	33	0.527	0.5001	35.649	27.15	229.56
1	7/14/79	1	34	0.546	0.5375	38.314	27.76	230.18
1	7/14/79	1	35	0.567	0.5862	41.786	28.43	230.85
1	7/14/79	1	36	0.638	0.6366	45.379	29.16	231.57
1	7/14/79	1	37	0.326	0.1812	12.919	29.64	232.06
1	7/14/79	1	38	0.332	0.1880	13.404	29.86	232.28
1	7/14/79	1	39	0.335	0.1914	13.646	30.09	232.50
1	7/14/79	1	40	0.332	0.1880	13.404	30.31	232.73
1	7/14/79	1	41	0.329	0.1846	13.161	30.54	232.95
1	7/14/79	1	42	0.320	0.1744	12.435	30.75	233.16
1	7/14/79	1	43	0.317	0.1710	12.192	30.95	233.37
1	7/14/79	1	44	0.314	0.1676	11.950	31.16	233.57
1	7/14/79	1	45	0.317	0.1710	12.192	31.36	233.77
1	7/14/79	1	46	0.323	0.1778	12.677	31.56	233.98
1	7/14/79	1	47	0.338	0.1951	13.908	31.79	234.20
1	7/14/79	1	48	0.354	0.2135	15.220	32.03	234.44
1	7/14/79	1	49	0.363	0.2246	16.008	32.29	234.70
1	7/14/79	1	50	0.366	0.2282	16.270	32.56	234.97
1	7/14/79	1	51	0.363	0.2246	16.008	32.83	235.24
1	7/14/79	1	52	0.347	0.2061	14.696	33.08	235.50
1	7/14/79	1	53	0.332	0.1880	13.404	33.32	235.73
1	7/14/79	1	54	0.314	0.1676	11.950	33.53	235.94
1	7/14/79	1	55	0.271	0.1242	8.852	33.70	236.12
1	7/14/79	1	56	0.241	0.0976	6.960	33.83	236.25
1	7/14/79	1	57	0.213	0.0767	5.470	33.94	236.35
1	7/14/79	1	58	0.189	0.0609	4.340	34.02	236.43
1	7/14/79	1	59	0.165	0.0469	3.343	34.08	236.50
1	7/14/79	2	0	0.143	0.0361	2.576	34.13	236.55
1	7/14/79	2	1	0.134	0.0321	2.285	34.17	236.59
1	7/14/79	2	2	0.116	0.0245	1.746	34.21	236.62
1	7/14/79	2	3	0.101	0.0192	1.368	34.23	236.65
1	7/14/79	2	4	0.088	0.0152	1.083	34.25	236.67
1	7/14/79	2	5	0.076	0.0119	0.851	34.27	236.68
1	7/14/79	2	6	0.061	0.0079	0.561	34.28	236.70
1	7/14/79	2	7	0.055	0.0068	0.485	34.29	236.70
1	7/14/79	2	10	0.052	0.0063	0.447	34.31	236.73
1	7/14/79	2	12	0.049	0.0057	0.409	34.33	236.74
1	7/14/79	2	14	0.046	0.0052	0.370	34.34	236.75
1	7/14/79	2	16	0.043	0.0047	0.332	34.35	236.77
1	7/14/79	2	17	0.040	0.0041	0.294	34.36	236.77
1	7/14/79	2	19	0.037	0.0036	0.256	34.36	236.78
1	7/14/79	2	22	0.034	0.0031	0.218	34.38	236.79
1	7/14/79	2	25	0.030	0.0025	0.180	34.39	236.80
1	7/14/79	2	29	0.027	0.0023	0.162	34.40	236.81
1	7/14/79	2	33	0.024	0.0020	0.144	34.41	236.82
1	7/14/79	2	40	0.021	0.0018	0.126	34.42	236.84
1	7/14/79	2	43	0.024	0.0020	0.144	34.43	236.85
1	7/14/79	2	52	0.024	0.0020	0.144	34.45	236.87
1	7/14/79	2	58	0.021	0.0018	0.126	34.47	236.88
1	7/14/79	3	5	0.018	0.0015	0.108	34.48	236.90
1	7/14/79	3	16	0.015	0.0013	0.090	34.50	236.91
1	7/14/79	3	25	0.012	0.0010	0.072	34.51	236.93
1	7/14/79	3	28	0.015	0.0013	0.090	34.51	236.93
1	7/14/79	3	42	0.012	0.0010	0.072	34.53	236.95
1	7/14/79	3	53	0.012	0.0010	0.072	34.55	236.96
1	7/14/79	3	54	0.015	0.0013	0.090	34.55	236.96
1	7/14/79	3	55	0.018	0.0015	0.108	34.55	236.96
1	7/14/79	3	59	0.021	0.0018	0.126	34.56	236.97
1	7/14/79	4	6	0.024	0.0020	0.144	34.57	236.99
1	7/14/79	4	21	0.021	0.0018	0.126	34.61	237.02
1	7/14/79	4	30	0.018	0.0015	0.108	34.62	237.04
1	7/14/79	4	41	0.015	0.0013	0.090	34.64	237.06
1	7/14/79	4	48	0.012	0.0010	0.072	34.65	237.07
1	7/14/79	5	0	0.009	0.0008	0.054	34.66	237.08
1	7/14/79	5	9	0.006	0.0005	0.036	34.67	237.09
1	7/14/79	5	28	0.006	0.0005	0.036	34.68	237.10
1	7/14/79	5	29	0.009	0.0008	0.054	34.68	237.10
1	7/14/79	5	30	0.015	0.0013	0.090	34.68	237.10
1	7/14/79	5	32	0.018	0.0015	0.108	34.69	237.10
1	7/14/79	5	39	0.021	0.0018	0.126	34.70	237.12
1	7/14/79	5	50	0.018	0.0015	0.108	34.72	237.14
1	7/14/79	6	1	0.015	0.0013	0.090	34.74	237.16
1	7/14/79	6	9	0.012	0.0010	0.072	34.75	237.17
1	7/14/79	6	17	0.009	0.0008	0.054	34.76	237.17

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	7/14/79	6	26	0.006	0.0005	0.036	34.77	237.18
1	7/14/79	6	43	0.003	0.0003	0.018	34.77	237.19
1	7/14/79	7	9	0.0	0.0	0.0	34.78	237.19
1	8/19/79	5	25	0.0	0.0	0.0	0.0	237.19
1	8/19/79	5	26	0.012	0.0010	0.072	0.00	237.19
1	8/19/79	5	27	0.018	0.0015	0.108	0.00	237.20
1	8/19/79	5	29	0.024	0.0020	0.144	0.01	237.20
1	8/19/79	5	31	0.021	0.0018	0.126	0.01	237.20
1	8/19/79	5	35	0.012	0.0010	0.072	0.02	237.21
1	8/19/79	5	37	0.018	0.0015	0.108	0.02	237.21
1	8/19/79	5	39	0.021	0.0018	0.126	0.02	237.22
1	8/19/79	5	40	0.024	0.0020	0.144	0.03	237.22
1	8/19/79	5	43	0.030	0.0025	0.180	0.03	237.23
1	8/19/79	5	47	0.024	0.0020	0.144	0.05	237.24
1	8/19/79	5	50	0.015	0.0013	0.090	0.05	237.24
1	8/19/79	5	52	0.024	0.0020	0.144	0.06	237.25
1	8/19/79	5	54	0.037	0.0036	0.256	0.06	237.25
1	8/19/79	5	56	0.043	0.0047	0.332	0.07	237.26
1	8/19/79	5	58	0.055	0.0068	0.485	0.09	237.28
1	8/19/79	5	59	0.061	0.0079	0.561	0.09	237.29
1	8/19/79	6	1	0.073	0.0111	0.793	0.12	237.31
1	8/19/79	6	4	0.104	0.0202	1.443	0.17	237.37
1	8/19/79	6	5	0.131	0.0307	2.188	0.20	237.40
1	8/19/79	6	6	0.158	0.0436	3.105	0.25	237.44
1	8/19/79	6	7	0.186	0.0589	4.199	0.31	237.50
1	8/19/79	6	8	0.192	0.0629	4.481	0.38	237.57
1	8/19/79	6	9	0.198	0.0668	4.764	0.46	237.65
1	8/19/79	6	11	0.189	0.0609	4.340	0.61	237.80
1	8/19/79	6	13	0.174	0.0519	3.700	0.74	237.94
1	8/19/79	6	14	0.158	0.0436	3.105	0.80	237.99
1	8/19/79	6	15	0.146	0.0375	2.673	0.85	238.04
1	8/19/79	6	16	0.134	0.0321	2.285	0.89	238.08
1	8/19/79	6	17	0.122	0.0266	1.898	0.92	238.12
1	8/19/79	6	18	0.110	0.0224	1.595	0.95	238.15
1	8/19/79	6	20	0.091	0.0160	1.141	1.00	238.19
1	8/19/79	6	22	0.076	0.0119	0.851	1.03	238.22
1	8/19/79	6	23	0.067	0.0095	0.677	1.04	238.24
1	8/19/79	6	24	0.061	0.0079	0.561	1.05	238.25
1	8/19/79	6	27	0.055	0.0068	0.485	1.08	238.27
1	8/19/79	6	32	0.049	0.0057	0.409	1.12	238.31
1	8/19/79	6	34	0.043	0.0047	0.332	1.13	238.32
1	8/19/79	6	38	0.040	0.0041	0.294	1.15	238.34
1	8/19/79	6	40	0.037	0.0036	0.256	1.16	238.35
1	8/19/79	6	43	0.024	0.0020	0.144	1.17	238.36
1	8/19/79	6	45	0.018	0.0015	0.108	1.17	238.37
1	8/19/79	6	48	0.012	0.0010	0.072	1.18	238.37
1	8/19/79	6	52	0.009	0.0008	0.054	1.18	238.38
1	8/19/79	6	54	0.006	0.0005	0.036	1.18	238.38
1	8/19/79	7	0	0.0	0.0	0.0	1.19	238.38
1	8/19/79	21	3	0.0	0.0	0.0	0.0	238.38
1	8/19/79	21	4	0.012	0.0010	0.072	0.00	238.38
1	8/19/79	21	6	0.024	0.0020	0.144	0.00	238.38
1	8/19/79	21	7	0.030	0.0025	0.180	0.01	238.39
1	8/19/79	21	8	0.037	0.0036	0.256	0.01	238.39
1	8/19/79	21	11	0.037	0.0036	0.256	0.02	238.40
1	8/19/79	21	13	0.030	0.0025	0.180	0.03	238.41
1	8/19/79	21	14	0.027	0.0023	0.162	0.03	238.41
1	8/19/79	21	16	0.021	0.0018	0.126	0.04	238.42
1	8/19/79	21	17	0.024	0.0020	0.144	0.04	238.42
1	8/19/79	21	18	0.037	0.0036	0.256	0.04	238.42
1	8/19/79	21	19	0.046	0.0052	0.370	0.05	238.43
1	8/19/79	21	20	0.055	0.0068	0.485	0.06	238.44
1	8/19/79	21	21	0.064	0.0087	0.619	0.07	238.44
1	8/19/79	21	22	0.073	0.0111	0.793	0.08	238.46
1	8/19/79	21	23	0.076	0.0119	0.851	0.09	238.47
1	8/19/79	21	24	0.082	0.0136	0.967	0.11	238.49
1	8/19/79	21	25	0.088	0.0152	1.083	0.12	238.50
1	8/19/79	21	26	0.094	0.0171	1.216	0.14	238.52
1	8/19/79	21	27	0.104	0.0202	1.443	0.16	238.54
1	8/19/79	21	28	0.113	0.0234	1.670	0.19	238.57
1	8/19/79	21	29	0.131	0.0307	2.188	0.22	238.60
1	8/19/79	21	30	0.149	0.0389	2.770	0.26	238.64
1	8/19/79	21	31	0.165	0.0469	3.343	0.31	238.69
1	8/19/79	21	32	0.177	0.0536	3.819	0.37	238.75
1	8/19/79	21	33	0.186	0.0589	4.199	0.44	238.82
1	8/19/79	21	34	0.192	0.0629	4.481	0.51	238.89
1	8/19/79	21	35	0.198	0.0668	4.764	0.59	238.97
1	8/19/79	21	36	0.201	0.0688	4.905	0.67	239.05
1	8/19/79	21	38	0.198	0.0668	4.764	0.83	239.21
1	8/19/79	21	39	0.195	0.0648	4.623	0.91	239.29
1	8/19/79	21	40	0.189	0.0609	4.340	0.99	239.36
1	8/19/79	21	42	0.168	0.0486	3.462	1.12	239.49
1	8/19/79	21	44	0.149	0.0389	2.770	1.22	239.60
1	8/19/79	21	46	0.134	0.0321	2.285	1.30	239.68
1	8/19/79	21	48	0.128	0.0293	2.091	1.38	239.76
1	8/19/79	21	49	0.122	0.0266	1.898	1.41	239.79
1	8/19/79	21	51	0.110	0.0224	1.595	1.47	239.85
1	8/19/79	21	53	0.101	0.0192	1.368	1.52	239.90
1	8/19/79	21	55	0.098	0.0181	1.292	1.56	239.94
1	8/19/79	21	57	0.091	0.0160	1.141	1.60	239.98
1	8/19/79	22	0	0.070	0.0103	0.735	1.65	240.03
1	8/19/79	22	1	0.061	0.0079	0.561	1.66	240.04
1	8/19/79	22	3	0.046	0.0052	0.370	1.68	240.05
1	8/19/79	22	5	0.034	0.0031	0.218	1.68	240.06
1	8/19/79	22	7	0.024	0.0020	0.144	1.69	240.07
1	8/19/79	22	9	0.015	0.0013	0.090	1.69	240.07
1	8/19/79	22	11	0.012	0.0010	0.072	1.70	240.08
1	8/19/79	22	20	0.012	0.0010	0.072	1.71	240.09
1	8/19/79	22	21	0.018	0.0015	0.108	1.71	240.09
1	8/19/79	22	22	0.030	0.0025	0.180	1.71	240.09

TABLE D1- 1. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	8/19/79	22	23	0.066	0.0052	0.370	1.72	240.10
1	8/19/79	22	24	0.067	0.0095	0.677	1.73	240.10
1	8/19/79	22	25	0.085	0.0144	1.025	1.74	240.12
1	8/19/79	22	26	0.098	0.0181	1.292	1.76	240.14
1	8/19/79	22	27	0.110	0.0224	1.595	1.78	240.16
1	8/19/79	22	28	0.134	0.0321	2.285	1.82	240.19
1	8/19/79	22	29	0.158	0.0436	3.105	1.86	240.24
1	8/19/79	22	30	0.189	0.0609	4.340	1.92	240.30
1	8/19/79	22	31	0.207	0.0728	5.188	2.00	240.38
1	8/19/79	22	32	0.216	0.0791	5.636	2.09	240.47
1	8/19/79	22	33	0.219	0.0814	5.802	2.19	240.57
1	8/19/79	22	34	0.210	0.0748	5.329	2.28	240.66
1	8/19/79	22	35	0.198	0.0668	4.764	2.36	240.74
1	8/19/79	22	36	0.186	0.0589	4.199	2.44	240.82
1	8/19/79	22	37	0.168	0.0486	3.462	2.50	240.88
1	8/19/79	22	38	0.155	0.0419	2.986	2.56	240.94
1	8/19/79	22	39	0.140	0.0348	2.479	2.60	240.98
1	8/19/79	22	40	0.122	0.0266	1.898	2.64	241.02
1	8/19/79	22	41	0.110	0.0224	1.595	2.67	241.05
1	8/19/79	22	42	0.098	0.0181	1.292	2.69	241.07
1	8/19/79	22	43	0.088	0.0152	1.083	2.71	241.09
1	8/19/79	22	44	0.079	0.0127	0.909	2.73	241.11
1	8/19/79	22	45	0.070	0.0103	0.735	2.74	241.12
1	8/19/79	22	46	0.061	0.0079	0.561	2.75	241.13
1	8/19/79	22	47	0.052	0.0063	0.447	2.76	241.14
1	8/19/79	22	48	0.043	0.0047	0.332	2.77	241.15
1	8/19/79	22	49	0.037	0.0036	0.256	2.77	241.15
1	8/19/79	22	51	0.030	0.0025	0.180	2.78	241.16
1	8/19/79	22	52	0.024	0.0020	0.144	2.78	241.16
1	8/19/79	22	54	0.018	0.0015	0.108	2.79	241.17
1	8/19/79	22	55	0.015	0.0013	0.090	2.79	241.17
1	8/19/79	22	57	0.018	0.0015	0.108	2.79	241.17
1	8/19/79	22	58	0.024	0.0020	0.144	2.79	241.17
1	8/19/79	23	0	0.030	0.0025	0.180	2.80	241.18
1	8/19/79	23	3	0.030	0.0025	0.180	2.81	241.19
1	8/19/79	23	6	0.024	0.0020	0.144	2.82	241.19
1	8/19/79	23	8	0.034	0.0031	0.218	2.82	241.20
1	8/19/79	23	9	0.037	0.0036	0.256	2.83	241.20
1	8/19/79	23	10	0.040	0.0041	0.294	2.83	241.21
1	8/19/79	23	14	0.037	0.0036	0.256	2.85	241.23
1	8/19/79	23	16	0.030	0.0025	0.180	2.86	241.23
1	8/19/79	23	17	0.024	0.0020	0.144	2.86	241.24
1	8/19/79	23	19	0.018	0.0015	0.108	2.86	241.24
1	8/19/79	23	22	0.012	0.0010	0.072	2.87	241.25
1	8/19/79	23	26	0.009	0.0008	0.054	2.87	241.25
1	8/19/79	23	29	0.006	0.0005	0.036	2.87	241.25
1	8/19/79	23	34	0.0	0.0	0.0	2.88	241.25
1	8/21/79	18	43	0.0	0.0	0.0	0.0	241.25
1	8/21/79	18	45	0.009	0.0008	0.054	0.00	241.25
1	8/21/79	18	46	0.024	0.0020	0.144	0.00	241.26
1	8/21/79	18	47	0.043	0.0047	0.332	0.01	241.26
1	8/21/79	18	48	0.070	0.0103	0.735	0.02	241.27
1	8/21/79	18	49	0.098	0.0181	1.292	0.03	241.29
1	8/21/79	18	50	0.125	0.0280	1.994	0.06	241.31
1	8/21/79	18	51	0.149	0.0389	2.770	0.10	241.35
1	8/21/79	18	52	0.177	0.0536	3.819	0.15	241.41
1	8/21/79	18	53	0.213	0.0767	5.470	0.23	241.49
1	8/21/79	18	54	0.268	0.1215	8.660	0.35	241.60
1	8/21/79	18	55	0.381	0.2493	17.774	0.57	241.82
1	8/21/79	18	56	0.439	0.3375	24.062	0.92	242.17
1	8/21/79	18	57	0.448	0.3528	25.152	1.33	242.58
1	8/21/79	18	58	0.457	0.3681	26.242	1.76	243.01
1	8/21/79	18	59	0.463	0.3789	27.009	2.20	243.45
1	8/21/79	19	1	0.469	0.3896	27.776	3.11	244.37
1	8/21/79	19	4	0.463	0.3789	27.009	4.48	245.74
1	8/21/79	19	5	0.445	0.3477	24.789	4.91	246.17
1	8/21/79	19	6	0.433	0.3273	23.335	5.32	246.57
1	8/21/79	19	7	0.424	0.3125	22.276	5.70	246.95
1	8/21/79	19	8	0.402	0.2798	19.944	6.05	247.30
1	8/21/79	19	9	0.381	0.2493	17.774	6.36	247.62
1	8/21/79	19	10	0.360	0.2209	15.745	6.64	247.90
1	8/21/79	19	11	0.341	0.1988	14.171	6.89	248.14
1	8/21/79	19	12	0.326	0.1812	12.919	7.12	248.37
1	8/21/79	19	13	0.305	0.1574	11.224	7.32	248.57
1	8/21/79	19	14	0.280	0.1330	9.479	7.49	248.74
1	8/21/79	19	15	0.256	0.1107	7.893	7.64	248.89
1	8/21/79	19	16	0.235	0.0930	6.629	7.76	249.01
1	8/21/79	19	17	0.216	0.0791	5.636	7.86	249.11
1	8/21/79	19	18	0.201	0.0688	4.905	7.95	249.20
1	8/21/79	19	19	0.189	0.0609	4.340	8.02	249.28
1	8/21/79	19	20	0.177	0.0536	3.819	8.09	249.34
1	8/21/79	19	21	0.165	0.0469	3.343	8.15	249.40
1	8/21/79	19	22	0.152	0.0402	2.866	8.20	249.46
1	8/21/79	19	23	0.143	0.0361	2.576	8.25	249.50
1	8/21/79	19	24	0.134	0.0321	2.285	8.29	249.54
1	8/21/79	19	25	0.128	0.0293	2.091	8.32	249.58
1	8/21/79	19	27	0.116	0.0245	1.746	8.39	249.64
1	8/21/79	19	29	0.098	0.0181	1.292	8.44	249.69
1	8/21/79	19	31	0.082	0.0136	0.967	8.48	249.73
1	8/21/79	19	33	0.067	0.0095	0.677	8.50	249.76
1	8/21/79	19	35	0.055	0.0068	0.485	8.52	249.78
1	8/21/79	19	36	0.046	0.0052	0.370	8.53	249.78
1	8/21/79	19	37	0.040	0.0041	0.294	8.54	249.79
1	8/21/79	19	39	0.027	0.0023	0.162	8.54	249.80
1	8/21/79	19	41	0.021	0.0018	0.126	8.55	249.80
1	8/21/79	19	44	0.012	0.0010	0.072	8.55	249.81
1	8/21/79	19	45	0.009	0.0008	0.054	8.55	249.81
1	8/21/79	19	54	0.009	0.0008	0.054	8.56	249.82
1	8/21/79	20	9	0.006	0.0005	0.036	8.57	249.83
1	8/21/79	20	15	0.003	0.0003	0.018	8.58	249.83
1	8/21/79	20	20	0.0	0.0	0.0	8.58	249.83

TABLE D1- 1. CONCLUDED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	10/22/79	4	32	0.0	0.0	0.0	0.0	249.83
1	10/22/79	4	36	0.003	0.0003	0.018	0.00	249.83
1	10/22/79	4	47	0.006	0.0005	0.036	0.01	249.84
1	10/22/79	5	0	0.009	0.0008	0.054	0.02	249.85
1	10/22/79	5	12	0.012	0.0010	0.072	0.03	249.86
1	10/22/79	5	36	0.015	0.0013	0.090	0.06	249.89
1	10/22/79	5	45	0.015	0.0013	0.090	0.07	249.90
1	10/22/79	6	4	0.012	0.0010	0.072	0.10	249.93
1	10/22/79	6	14	0.015	0.0013	0.090	0.11	249.94
1	10/22/79	6	26	0.012	0.0010	0.072	0.13	249.96
1	10/22/79	6	43	0.009	0.0008	0.054	0.15	249.98
1	10/22/79	6	59	0.009	0.0008	0.054	0.16	249.99
1	10/22/79	7	6	0.012	0.0010	0.072	0.17	250.00
1	10/22/79	7	19	0.009	0.0008	0.054	0.18	250.01
1	10/22/79	7	28	0.012	0.0010	0.072	0.19	250.02
1	10/22/79	7	35	0.015	0.0013	0.090	0.20	250.03
1	10/22/79	7	48	0.012	0.0010	0.072	0.22	250.05
1	10/22/79	8	10	0.015	0.0013	0.090	0.25	250.08
1	10/22/79	8	25	0.012	0.0010	0.072	0.27	250.10
1	10/22/79	8	29	0.012	0.0010	0.072	0.27	250.10
1	10/22/79	8	31	0.015	0.0013	0.090	0.28	250.11
1	10/22/79	8	36	0.015	0.0013	0.090	0.28	250.11
1	10/22/79	8	40	0.012	0.0010	0.072	0.29	250.12
1	10/22/79	8	43	0.009	0.0008	0.054	0.29	250.12
1	10/22/79	8	46	0.006	0.0005	0.036	0.29	250.13
1	10/22/79	8	54	0.0	0.0	0.0	0.30	250.13
1	10/22/79	9	59	0.0	0.0	0.0	0.30	250.13
1	10/22/79	10	4	0.003	0.0003	0.018	0.30	250.13
1	10/22/79	10	6	0.006	0.0005	0.036	0.30	250.13
1	10/22/79	10	18	0.006	0.0005	0.036	0.31	250.14
1	10/22/79	10	21	0.009	0.0008	0.054	0.31	250.14
1	10/22/79	10	23	0.012	0.0010	0.072	0.31	250.14
1	10/22/79	10	25	0.015	0.0013	0.090	0.31	250.14
1	10/22/79	10	28	0.018	0.0015	0.108	0.32	250.15
1	10/22/79	10	36	0.018	0.0015	0.108	0.33	250.16
1	10/22/79	10	40	0.015	0.0013	0.090	0.34	250.17
1	10/22/79	10	41	0.021	0.0018	0.126	0.34	250.17
1	10/22/79	10	42	0.030	0.0025	0.180	0.34	250.17
1	10/22/79	10	43	0.040	0.0041	0.294	0.35	250.18
1	10/22/79	10	44	0.049	0.0057	0.409	0.35	250.18
1	10/22/79	10	45	0.055	0.0068	0.485	0.36	250.19
1	10/22/79	10	46	0.058	0.0073	0.523	0.37	250.20
1	10/22/79	10	49	0.058	0.0073	0.523	0.39	250.23
1	10/22/79	10	52	0.055	0.0068	0.485	0.42	250.25
1	10/22/79	10	53	0.052	0.0063	0.447	0.43	250.26
1	10/22/79	10	55	0.049	0.0057	0.409	0.44	250.27
1	10/22/79	10	56	0.046	0.0052	0.370	0.45	250.28
1	10/22/79	10	59	0.040	0.0041	0.294	0.46	250.30
1	10/22/79	11	1	0.037	0.0036	0.256	0.47	250.30
1	10/22/79	11	4	0.034	0.0031	0.218	0.49	250.32
1	10/22/79	11	12	0.030	0.0025	0.180	0.51	250.34
1	10/22/79	11	16	0.027	0.0023	0.162	0.52	250.35
1	10/22/79	11	20	0.027	0.0023	0.162	0.53	250.37
1	10/22/79	11	23	0.034	0.0031	0.218	0.54	250.37
1	10/22/79	11	27	0.040	0.0041	0.294	0.56	250.39
1	10/22/79	11	32	0.037	0.0036	0.256	0.58	250.41
1	10/22/79	11	35	0.034	0.0031	0.218	0.60	250.43
1	10/22/79	11	40	0.030	0.0025	0.180	0.61	250.44
1	10/22/79	11	44	0.030	0.0025	0.180	0.62	250.45
1	10/22/79	11	47	0.034	0.0031	0.218	0.63	250.46
1	10/22/79	11	51	0.040	0.0041	0.294	0.65	250.48
1	10/22/79	11	53	0.046	0.0052	0.370	0.66	250.49
1	10/22/79	11	55	0.058	0.0073	0.523	0.68	250.51
1	10/22/79	11	57	0.070	0.0103	0.735	0.70	250.53
1	10/22/79	11	59	0.082	0.0136	0.967	0.73	250.56
1	10/22/79	12	1	0.094	0.0171	1.216	0.76	250.59
1	10/22/79	12	3	0.107	0.0213	1.519	0.81	250.64
1	10/22/79	12	5	0.119	0.0256	1.822	0.86	250.69
1	10/22/79	12	6	0.125	0.0280	1.994	0.90	250.73
1	10/22/79	12	8	0.131	0.0307	2.188	0.97	250.80
1	10/22/79	12	10	0.137	0.0334	2.382	1.04	250.87
1	10/22/79	12	12	0.131	0.0307	2.188	1.12	250.95
1	10/22/79	12	14	0.125	0.0280	1.994	1.19	251.02
1	10/22/79	12	16	0.113	0.0234	1.670	1.25	251.08
1	10/22/79	12	18	0.104	0.0202	1.443	1.30	251.13
1	10/22/79	12	20	0.094	0.0171	1.216	1.34	251.18
1	10/22/79	12	22	0.088	0.0152	1.083	1.38	251.21
1	10/22/79	12	24	0.079	0.0127	0.909	1.42	251.25
1	10/22/79	12	26	0.070	0.0103	0.735	1.44	251.27
1	10/22/79	12	28	0.064	0.0087	0.619	1.47	251.30
1	10/22/79	12	30	0.058	0.0073	0.523	1.49	251.32
1	10/22/79	12	31	0.052	0.0063	0.447	1.49	251.32
1	10/22/79	12	32	0.049	0.0057	0.409	1.50	251.33
1	10/22/79	12	33	0.046	0.0052	0.370	1.51	251.34
1	10/22/79	12	34	0.040	0.0041	0.294	1.51	251.34
1	10/22/79	12	37	0.034	0.0031	0.218	1.53	251.36
1	10/22/79	12	39	0.027	0.0023	0.162	1.53	251.36
1	10/22/79	12	42	0.021	0.0018	0.126	1.54	251.37
1	10/22/79	12	44	0.018	0.0015	0.108	1.54	251.37
1	10/22/79	12	46	0.015	0.0013	0.090	1.55	251.38
1	10/22/79	12	49	0.012	0.0010	0.072	1.55	251.38
1	10/22/79	12	51	0.009	0.0008	0.054	1.55	251.38
1	10/22/79	12	55	0.006	0.0005	0.036	1.56	251.39
1	10/22/79	13	4	0.0	0.0	0.0	1.56	251.39

TABLE D1- 2. FOUR MILE CREEK WATERSHED RUNOFF DATA FOR 1979 SITE 2

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	3/16/79	18	34	0.0	0.0	0.0	0.0	0.0
2	3/16/79	18	36	0.003	0.0003	0.014	0.00	0.00
2	3/16/79	18	39	0.006	0.0005	0.028	0.00	0.00
2	3/16/79	18	42	0.009	0.0008	0.043	0.00	0.00
2	3/16/79	18	44	0.012	0.0010	0.057	0.00	0.00
2	3/16/79	21	1	0.015	0.0013	0.071	0.15	0.15
2	3/16/79	23	8	0.018	0.0015	0.085	0.32	0.32
2	3/17/79	11	10	0.021	0.0018	0.100	1.43	1.43
2	3/17/79	12	16	0.024	0.0020	0.114	1.55	1.55
2	3/17/79	13	25	0.027	0.0023	0.128	1.69	1.69
2	3/17/79	14	12	0.030	0.0025	0.142	1.79	1.79
2	3/17/79	14	46	0.034	0.0031	0.173	1.88	1.88
2	3/17/79	15	5	0.037	0.0036	0.203	1.94	1.94
2	3/17/79	15	9	0.040	0.0041	0.233	1.96	1.96
2	3/17/79	15	37	0.043	0.0047	0.263	2.07	2.07
2	3/17/79	15	47	0.046	0.0052	0.294	2.12	2.12
2	3/17/79	16	12	0.049	0.0057	0.324	2.25	2.25
2	3/17/79	16	30	0.052	0.0063	0.354	2.35	2.35
2	3/17/79	16	48	0.055	0.0068	0.384	2.46	2.46
2	3/17/79	17	5	0.058	0.0073	0.415	2.57	2.57
2	3/17/79	17	16	0.061	0.0079	0.445	2.65	2.65
2	3/17/79	17	24	0.064	0.0087	0.491	2.71	2.71
2	3/17/79	17	25	0.067	0.0095	0.537	2.72	2.72
2	3/17/79	17	27	0.070	0.0103	0.583	2.74	2.74
2	3/17/79	17	28	0.073	0.0111	0.629	2.75	2.75
2	3/17/79	17	30	0.076	0.0119	0.675	2.77	2.77
2	3/17/79	17	31	0.079	0.0127	0.720	2.79	2.79
2	3/17/79	17	32	0.085	0.0144	0.812	2.80	2.80
2	3/17/79	17	33	0.088	0.0152	0.858	2.81	2.81
2	3/17/79	17	35	0.091	0.0160	0.904	2.84	2.84
2	3/17/79	17	36	0.094	0.0171	0.964	2.86	2.86
2	3/17/79	17	39	0.098	0.0181	1.024	2.91	2.91
2	3/17/79	17	40	0.101	0.0192	1.084	2.92	2.92
2	3/17/79	17	46	0.104	0.0202	1.144	3.04	3.04
2	3/17/79	17	54	0.131	0.0192	1.084	3.18	3.18
2	3/17/79	17	57	0.098	0.0181	1.024	3.24	3.24
2	3/17/79	17	59	0.094	0.0171	0.964	3.27	3.27
2	3/17/79	18	2	0.091	0.0160	0.904	3.32	3.32
2	3/17/79	18	4	0.088	0.0152	0.858	3.35	3.35
2	3/17/79	18	7	0.085	0.0144	0.812	3.39	3.39
2	3/17/79	18	13	0.082	0.0136	0.766	3.47	3.47
2	3/17/79	18	19	0.079	0.0127	0.720	3.54	3.54
2	3/17/79	18	26	0.076	0.0119	0.675	3.62	3.62
2	3/17/79	18	38	0.073	0.0111	0.629	3.75	3.75
2	3/17/79	19	12	0.070	0.0103	0.583	4.10	4.10
2	3/17/79	20	40	0.073	0.0111	0.629	4.98	4.98
2	3/17/79	20	57	0.076	0.0119	0.675	5.17	5.17
2	3/17/79	21	6	0.079	0.0127	0.720	5.27	5.27
2	3/17/79	21	14	0.082	0.0136	0.766	5.37	5.37
2	3/17/79	21	25	0.085	0.0144	0.812	5.52	5.52
2	3/17/79	21	44	0.088	0.0152	0.858	5.78	5.78
2	3/17/79	22	44	0.091	0.0160	0.904	6.66	6.66
2	3/17/79	23	12	0.091	0.0160	0.904	7.09	7.09
2	3/17/79	23	52	0.088	0.0152	0.858	7.67	7.67
2	3/18/79	0	32	0.085	0.0144	0.812	8.23	8.23
2	3/18/79	1	0	0.082	0.0136	0.766	8.60	8.60
2	3/18/79	1	24	0.079	0.0127	0.720	8.90	8.90
2	3/18/79	2	3	0.076	0.0119	0.675	9.35	9.35
2	3/18/79	2	42	0.076	0.0119	0.675	9.79	9.79
2	3/18/79	2	48	0.079	0.0127	0.720	9.86	9.86
2	3/18/79	2	52	0.082	0.0136	0.766	9.91	9.91
2	3/18/79	2	56	0.085	0.0144	0.812	9.96	9.96
2	3/18/79	3	3	0.088	0.0152	0.858	10.06	10.06
2	3/18/79	3	22	0.091	0.0160	0.904	10.34	10.34
2	3/18/79	3	29	0.094	0.0171	0.964	10.44	10.44
2	3/18/79	3	56	0.098	0.0181	1.024	10.89	10.89
2	3/18/79	3	57	0.101	0.0192	1.084	10.91	10.91
2	3/18/79	3	59	0.104	0.0202	1.144	10.95	10.95
2	3/18/79	4	11	0.107	0.0213	1.204	11.18	11.18
2	3/18/79	4	18	0.110	0.0224	1.264	11.33	11.33
2	3/18/79	4	42	0.110	0.0224	1.264	11.83	11.83
2	3/18/79	4	46	0.113	0.0234	1.324	11.92	11.92
2	3/18/79	5	4	0.110	0.0224	1.264	12.31	12.31
2	3/18/79	5	28	0.107	0.0213	1.204	12.80	12.80
2	3/18/79	6	16	0.104	0.0202	1.144	13.74	13.74
2	3/18/79	6	42	0.101	0.0192	1.084	14.22	14.22
2	3/18/79	7	5	0.098	0.0181	1.024	14.63	14.63
2	3/18/79	7	22	0.094	0.0171	0.964	14.91	14.91
2	3/18/79	8	2	0.091	0.0160	0.904	15.53	15.53
2	3/18/79	9	12	0.088	0.0152	0.858	16.56	16.56
2	3/18/79	10	4	0.088	0.0152	0.858	17.30	17.30
2	3/18/79	10	18	0.091	0.0160	0.904	17.51	17.51
2	3/18/79	10	27	0.094	0.0171	0.964	17.65	17.65
2	3/18/79	10	36	0.098	0.0181	1.024	17.80	17.80
2	3/18/79	10	46	0.101	0.0192	1.084	17.97	17.97
2	3/18/79	10	55	0.104	0.0202	1.144	18.14	18.14
2	3/18/79	11	0	0.107	0.0213	1.204	18.24	18.24
2	3/18/79	11	12	0.110	0.0224	1.264	18.48	18.48
2	3/18/79	11	16	0.113	0.0234	1.324	18.57	18.57
2	3/18/79	11	18	0.116	0.0245	1.384	18.62	18.62
2	3/18/79	11	20	0.119	0.0256	1.444	18.66	18.66
2	3/18/79	11	23	0.122	0.0266	1.504	18.74	18.74
2	3/18/79	11	26	0.125	0.0280	1.581	18.81	18.81
2	3/18/79	11	28	0.128	0.0293	1.658	18.87	18.87
2	3/18/79	11	32	0.131	0.0307	1.735	18.98	18.98
2	3/18/79	11	34	0.134	0.0321	1.812	19.04	19.04
2	3/18/79	11	38	0.137	0.0334	1.888	19.16	19.16
2	3/18/79	11	43	0.140	0.0348	1.965	19.32	19.32
2	3/18/79	11	50	0.143	0.0361	2.042	19.56	19.56
2	3/18/79	11	59	0.146	0.0375	2.119	19.87	19.87
2	3/18/79	12	6	0.149	0.0389	2.196	20.12	20.12
2	3/18/79	12	12	0.152	0.0402	2.272	20.34	20.34
2	3/18/79	12	20	0.155	0.0419	2.367	20.65	20.65
2	3/18/79	12	48	0.158	0.0436	2.461	21.78	21.78

TABLE D1- 2. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	3/18/79	13	8	0.162	0.0452	2.556	22.62	22.62
2	3/18/79	13	22	0.165	0.0469	2.650	23.22	23.22
2	3/18/79	13	26	0.168	0.0486	2.745	23.40	23.40
2	3/18/79	13	36	0.168	0.0486	2.745	23.86	23.86
2	3/18/79	13	39	0.165	0.0469	2.650	24.00	24.00
2	3/18/79	13	55	0.162	0.0452	2.556	24.69	24.69
2	3/18/79	14	11	0.158	0.0436	2.461	25.36	25.36
2	3/18/79	14	30	0.162	0.0452	2.556	26.15	26.15
2	3/18/79	14	40	0.165	0.0469	2.650	26.59	26.59
2	3/18/79	14	58	0.162	0.0452	2.556	27.37	27.37
2	3/18/79	15	12	0.158	0.0436	2.461	27.95	27.95
2	3/18/79	15	25	0.162	0.0452	2.556	28.50	28.50
2	3/18/79	15	36	0.165	0.0469	2.650	28.97	28.97
2	3/18/79	15	43	0.168	0.0486	2.745	29.29	29.29
2	3/18/79	15	52	0.171	0.0502	2.839	29.71	29.71
2	3/18/79	15	57	0.174	0.0519	2.933	29.95	29.95
2	3/18/79	16	3	0.177	0.0536	3.028	30.25	30.25
2	3/18/79	16	10	0.180	0.0552	3.122	30.61	30.61
2	3/18/79	16	14	0.183	0.0569	3.217	30.82	30.82
2	3/18/79	16	20	0.186	0.0589	3.329	31.14	31.14
2	3/18/79	16	24	0.189	0.0609	3.441	31.37	31.37
2	3/18/79	16	32	0.192	0.0629	3.553	31.84	31.84
2	3/18/79	17	0	0.195	0.0648	3.665	33.52	33.52
2	3/18/79	17	20	0.192	0.0629	3.553	34.72	34.72
2	3/18/79	17	30	0.189	0.0609	3.441	35.31	35.31
2	3/18/79	18	40	0.189	0.0609	3.441	39.32	39.32
2	3/18/79	18	58	0.186	0.0589	3.329	40.33	40.33
2	3/18/79	19	10	0.183	0.0569	3.217	40.99	40.99
2	3/18/79	19	21	0.180	0.0552	3.122	41.57	41.57
2	3/18/79	19	47	0.177	0.0536	3.028	42.90	42.90
2	3/18/79	19	52	0.174	0.0519	2.933	43.15	43.15
2	3/18/79	20	6	0.171	0.0502	2.839	43.82	43.82
2	3/18/79	20	22	0.168	0.0486	2.745	44.57	44.57
2	3/18/79	20	37	0.165	0.0469	2.650	45.24	45.24
2	3/18/79	20	47	0.162	0.0452	2.556	45.68	45.68
2	3/18/79	20	53	0.158	0.0436	2.461	45.93	45.93
2	3/18/79	21	4	0.155	0.0419	2.367	46.37	46.37
2	3/18/79	21	17	0.152	0.0402	2.272	46.87	46.87
2	3/18/79	21	26	0.149	0.0389	2.196	47.21	47.21
2	3/18/79	21	40	0.146	0.0375	2.119	47.71	47.71
2	3/18/79	21	51	0.143	0.0361	2.042	48.09	48.09
2	3/18/79	22	2	0.140	0.0348	1.965	48.46	48.46
2	3/18/79	22	15	0.137	0.0334	1.888	48.88	48.88
2	3/18/79	22	40	0.134	0.0321	1.812	49.65	49.65
2	3/18/79	23	24	0.134	0.0321	1.812	50.98	50.98
2	3/18/79	23	51	0.131	0.0307	1.735	51.78	51.78
2	3/19/79	0	6	0.131	0.0307	1.735	52.21	52.21
2	3/19/79	0	8	0.134	0.0321	1.812	52.27	52.27
2	3/19/79	0	28	0.131	0.0307	1.735	52.86	52.86
2	3/19/79	0	40	0.134	0.0321	1.812	53.21	53.21
2	3/19/79	0	43	0.137	0.0334	1.888	53.31	53.31
2	3/19/79	0	52	0.140	0.0348	1.965	53.60	53.60
2	3/19/79	1	12	0.140	0.0348	1.965	54.25	54.25
2	3/19/79	1	25	0.137	0.0334	1.888	54.67	54.67
2	3/19/79	1	39	0.134	0.0321	1.812	55.10	55.10
2	3/19/79	1	53	0.131	0.0307	1.735	55.51	55.51
2	3/19/79	2	8	0.128	0.0293	1.658	55.94	55.94
2	3/19/79	2	29	0.125	0.0280	1.581	56.50	56.50
2	3/19/79	2	40	0.122	0.0266	1.504	56.79	56.79
2	3/19/79	2	57	0.119	0.0256	1.444	57.20	57.20
2	3/19/79	3	10	0.116	0.0245	1.384	57.51	57.51
2	3/19/79	3	22	0.113	0.0234	1.324	57.78	57.78
2	3/19/79	3	41	0.110	0.0224	1.264	58.19	58.19
2	3/19/79	4	1	0.107	0.0213	1.204	58.60	58.60
2	3/19/79	4	20	0.104	0.0202	1.144	58.97	58.97
2	3/19/79	4	41	0.101	0.0192	1.084	59.36	59.36
2	3/19/79	5	0	0.098	0.0181	1.024	59.70	59.70
2	3/19/79	5	25	0.094	0.0171	0.964	60.11	60.11
2	3/19/79	5	50	0.091	0.0160	0.904	60.50	60.50
2	3/19/79	6	19	0.088	0.0152	0.858	60.93	60.93
2	3/19/79	6	53	0.085	0.0144	0.812	61.40	61.40
2	3/19/79	7	15	0.082	0.0136	0.766	61.69	61.69
2	3/19/79	7	48	0.079	0.0127	0.720	62.10	62.10
2	3/19/79	8	34	0.076	0.0119	0.675	62.63	62.63
2	3/19/79	9	10	0.073	0.0111	0.629	63.03	63.03
2	3/19/79	9	41	0.070	0.0103	0.583	63.34	63.34
2	3/19/79	10	57	0.067	0.0095	0.537	64.05	64.05
2	3/19/79	11	38	0.064	0.0087	0.491	64.40	64.40
2	3/19/79	12	20	0.061	0.0079	0.445	64.73	64.73
2	3/19/79	14	6	0.058	0.0073	0.415	65.48	65.48
2	3/19/79	14	23	0.055	0.0068	0.384	65.60	65.60
2	3/19/79	14	32	0.052	0.0063	0.354	65.65	65.65
2	3/19/79	14	42	0.049	0.0057	0.324	65.71	65.71
2	3/19/79	14	56	0.046	0.0052	0.294	65.78	65.78
2	3/19/79	15	13	0.043	0.0047	0.263	65.86	65.86
2	3/19/79	15	32	0.040	0.0041	0.233	65.94	65.94
2	3/19/79	15	52	0.037	0.0036	0.203	66.01	66.01
2	3/19/79	16	10	0.034	0.0031	0.173	66.07	66.07
2	3/19/79	16	20	0.030	0.0025	0.142	66.09	66.09
2	3/19/79	16	39	0.027	0.0023	0.128	66.14	66.14
2	3/19/79	17	0	0.024	0.0020	0.114	66.18	66.18
2	3/19/79	17	22	0.021	0.0018	0.100	66.22	66.22
2	3/19/79	17	44	0.018	0.0015	0.085	66.25	66.25
2	3/19/79	18	3	0.015	0.0013	0.071	66.28	66.28
2	3/19/79	18	13	0.012	0.0010	0.057	66.29	66.29
2	3/19/79	18	30	0.0	0.0	0.0	66.30	66.30
2	3/29/79	8	45	0.0	0.0	0.0	0.0	66.30
2	3/29/79	8	46	0.027	0.0023	0.128	0.00	66.30
2	3/29/79	8	47	0.030	0.0025	0.142	0.00	66.30
2	3/29/79	8	49	0.037	0.0036	0.203	0.01	66.31
2	3/29/79	8	53	0.049	0.0057	0.324	0.03	66.32
2	3/29/79	8	56	0.055	0.0068	0.384	0.04	66.34

TABLE D1- 2. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	3/29/79	8	57	0.073	0.0111	0.629	0.05	66.35
2	3/29/79	8	58	0.073	0.0127	0.720	0.06	66.36
2	3/29/79	8	59	0.082	0.0136	0.766	0.08	66.37
2	3/29/79	9	1	0.085	0.0144	0.812	0.10	66.40
2	3/29/79	9	6	0.088	0.0152	0.858	0.17	66.47
2	3/29/79	9	7	0.085	0.0144	0.812	0.19	66.48
2	3/29/79	9	8	0.079	0.0127	0.720	0.20	66.50
2	3/29/79	9	9	0.076	0.0119	0.675	0.21	66.51
2	3/29/79	9	12	0.079	0.0127	0.720	0.25	66.54
2	3/29/79	9	15	0.082	0.0136	0.766	0.28	66.58
2	3/29/79	9	18	0.085	0.0144	0.812	0.32	66.62
2	3/29/79	9	22	0.088	0.0152	0.858	0.38	66.67
2	3/29/79	9	45	0.085	0.0144	0.812	0.70	66.99
2	3/29/79	9	52	0.082	0.0136	0.766	0.79	67.09
2	3/29/79	9	57	0.079	0.0127	0.720	0.85	67.15
2	3/29/79	10	1	0.076	0.0119	0.675	0.90	67.20
2	3/29/79	10	5	0.073	0.0111	0.629	0.94	67.24
2	3/29/79	10	12	0.070	0.0103	0.583	1.01	67.31
2	3/29/79	10	21	0.067	0.0095	0.537	1.10	67.39
2	3/29/79	10	34	0.064	0.0087	0.491	1.21	67.50
2	3/29/79	10	55	0.061	0.0079	0.445	1.37	67.67
2	3/29/79	11	8	0.058	0.0073	0.415	1.46	67.76
2	3/29/79	11	18	0.055	0.0068	0.384	1.53	67.83
2	3/29/79	11	27	0.052	0.0063	0.354	1.59	67.88
2	3/29/79	11	29	0.049	0.0057	0.324	1.60	67.89
2	3/29/79	11	55	0.046	0.0052	0.294	1.73	68.03
2	3/29/79	12	47	0.046	0.0052	0.294	1.99	68.28
2	3/29/79	12	53	0.049	0.0057	0.324	2.02	68.31
2	3/29/79	13	0	0.052	0.0063	0.354	2.06	68.35
2	3/29/79	13	6	0.055	0.0068	0.384	2.09	68.39
2	3/29/79	13	10	0.058	0.0073	0.415	2.12	68.42
2	3/29/79	13	18	0.061	0.0079	0.445	2.18	68.47
2	3/29/79	13	26	0.064	0.0087	0.491	2.24	68.54
2	3/29/79	13	29	0.067	0.0095	0.537	2.27	68.56
2	3/29/79	13	30	0.070	0.0103	0.583	2.28	68.57
2	3/29/79	13	37	0.073	0.0111	0.629	2.35	68.64
2	3/29/79	13	42	0.076	0.0119	0.675	2.40	68.70
2	3/29/79	13	46	0.079	0.0127	0.720	2.45	68.74
2	3/29/79	13	55	0.082	0.0136	0.766	2.56	68.85
2	3/29/79	14	9	0.085	0.0144	0.812	2.74	69.04
2	3/29/79	14	16	0.082	0.0136	0.766	2.83	69.13
2	3/29/79	14	20	0.079	0.0127	0.720	2.88	69.18
2	3/29/79	14	22	0.076	0.0119	0.675	2.91	69.20
2	3/29/79	14	29	0.073	0.0111	0.629	2.98	69.28
2	3/29/79	14	39	0.070	0.0103	0.583	3.08	69.38
2	3/29/79	14	49	0.067	0.0095	0.537	3.18	69.47
2	3/29/79	15	0	0.064	0.0087	0.491	3.27	69.57
2	3/29/79	15	8	0.061	0.0079	0.445	3.33	69.63
2	3/29/79	15	20	0.058	0.0073	0.415	3.42	69.72
2	3/29/79	15	30	0.055	0.0068	0.384	3.49	69.78
2	3/29/79	15	35	0.052	0.0063	0.354	3.52	69.81
2	3/29/79	15	50	0.049	0.0057	0.324	3.60	69.90
2	3/29/79	16	1	0.046	0.0052	0.294	3.66	69.95
2	3/29/79	16	14	0.043	0.0047	0.263	3.72	70.02
2	3/29/79	16	29	0.040	0.0041	0.233	3.78	70.08
2	3/29/79	16	44	0.037	0.0036	0.203	3.84	70.13
2	3/29/79	16	59	0.034	0.0031	0.173	3.88	70.18
2	3/29/79	17	17	0.030	0.0025	0.142	3.93	70.23
2	3/29/79	17	42	0.027	0.0023	0.128	3.99	70.28
2	3/29/79	18	0	0.024	0.0020	0.114	4.02	70.32
2	3/29/79	18	29	0.027	0.0023	0.128	4.08	70.38
2	3/29/79	19	45	0.030	0.0025	0.142	4.25	70.55
2	3/29/79	19	46	0.034	0.0031	0.173	4.26	70.55
2	3/29/79	19	48	0.037	0.0036	0.203	4.26	70.56
2	3/29/79	19	50	0.040	0.0041	0.233	4.27	70.56
2	3/29/79	19	53	0.043	0.0047	0.263	4.28	70.58
2	3/29/79	19	55	0.046	0.0052	0.294	4.29	70.59
2	3/29/79	19	57	0.049	0.0057	0.324	4.30	70.60
2	3/29/79	20	0	0.052	0.0063	0.354	4.32	70.61
2	3/29/79	20	2	0.055	0.0068	0.384	4.33	70.63
2	3/29/79	20	5	0.058	0.0073	0.415	4.35	70.65
2	3/29/79	20	8	0.061	0.0079	0.445	4.37	70.67
2	3/29/79	20	11	0.064	0.0087	0.491	4.39	70.69
2	3/29/79	20	15	0.067	0.0095	0.537	4.43	70.73
2	3/29/79	20	17	0.070	0.0103	0.583	4.45	70.74
2	3/29/79	20	20	0.073	0.0111	0.629	4.48	70.77
2	3/29/79	20	23	0.076	0.0119	0.675	4.51	70.81
2	3/29/79	20	27	0.079	0.0127	0.720	4.56	70.85
2	3/29/79	20	30	0.082	0.0136	0.766	4.59	70.89
2	3/29/79	20	33	0.085	0.0144	0.812	4.63	70.93
2	3/29/79	20	37	0.088	0.0152	0.858	4.69	70.99
2	3/29/79	20	43	0.091	0.0160	0.904	4.78	71.07
2	3/29/79	20	52	0.091	0.0160	0.904	4.91	71.21
2	3/29/79	20	57	0.088	0.0152	0.858	4.99	71.28
2	3/29/79	21	3	0.085	0.0144	0.812	5.07	71.37
2	3/29/79	21	9	0.082	0.0136	0.766	5.15	71.44
2	3/29/79	21	12	0.079	0.0127	0.720	5.19	71.48
2	3/29/79	21	17	0.076	0.0119	0.675	5.24	71.54
2	3/29/79	21	21	0.073	0.0111	0.629	5.29	71.58
2	3/29/79	21	28	0.070	0.0103	0.583	5.36	71.65
2	3/29/79	21	34	0.067	0.0095	0.537	5.41	71.71
2	3/29/79	21	42	0.064	0.0087	0.491	5.48	71.78
2	3/29/79	21	48	0.061	0.0079	0.445	5.53	71.83
2	3/29/79	21	51	0.058	0.0073	0.415	5.55	71.85
2	3/29/79	21	52	0.055	0.0068	0.384	5.56	71.85
2	3/29/79	21	57	0.052	0.0063	0.354	5.59	71.88
2	3/29/79	22	8	0.049	0.0057	0.324	5.65	71.95
2	3/29/79	22	17	0.046	0.0052	0.294	5.70	71.99
2	3/29/79	22	37	0.043	0.0047	0.263	5.79	72.09
2	3/29/79	23	0	0.040	0.0041	0.233	5.88	72.18
2	3/29/79	23	13	0.037	0.0036	0.203	5.93	72.23
2	3/29/79	23	26	0.034	0.0031	0.173	5.97	72.27
2	3/29/79	23	40	0.030	0.0025	0.142	6.01	72.31
2	3/29/79	23	59	0.027	0.0023	0.128	6.05	72.35

TABLE 01- 2. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	3/30/79	0	16	0.024	0.0020	0.114	6.09	72.38
2	3/30/79	0	34	0.021	0.0018	0.100	6.12	72.41
2	3/30/79	0	54	0.018	0.0015	0.085	6.15	72.45
2	3/30/79	1	20	0.015	0.0013	0.071	6.18	72.48
2	3/30/79	2	9	0.012	0.0010	0.057	6.23	72.53
2	3/30/79	2	26	0.009	0.0008	0.043	6.25	72.55
2	3/30/79	3	0	0.0	0.0	0.0	6.26	72.56
2	4/20/79	4	20	0.0	0.0	0.0	0.0	72.56
2	4/20/79	4	27	0.003	0.0003	0.014	0.00	72.56
2	4/20/79	5	0	0.0	0.0	0.0	0.00	72.56
2	4/20/79	12	30	0.0	0.0	0.0	0.00	72.56
2	4/20/79	13	6	0.003	0.0003	0.014	0.01	72.57
2	4/20/79	13	30	0.0	0.0	0.0	0.01	72.57
2	6/12/79	17	46	0.0	0.0	0.0	0.0	72.57
2	6/12/79	17	48	0.064	0.0067	0.491	0.01	72.58
2	6/12/79	17	50	0.073	0.0111	0.629	0.03	72.60
2	6/12/79	18	2	0.076	0.0119	0.675	0.16	72.73
2	6/12/79	18	6	0.442	0.3426	19.364	0.83	73.39
2	6/12/79	18	8	0.808	1.2898	72.895	2.36	74.93
2	6/12/79	18	10	0.960	1.9128	108.102	5.38	77.95
2	6/12/79	18	12	1.113	2.6887	151.951	9.71	82.28
2	6/12/79	18	14	1.027	2.2328	126.185	14.35	86.92
2	6/12/79	18	16	1.006	2.1238	120.024	18.45	91.02
2	6/12/79	18	18	0.981	2.0105	113.623	22.35	94.92
2	6/12/79	18	20	0.960	1.9128	108.102	26.04	98.61
2	6/12/79	18	22	0.850	1.4495	81.921	29.21	101.78
2	6/12/79	18	24	0.741	1.0624	60.044	31.58	104.14
2	6/12/79	18	26	0.628	0.7340	41.480	33.27	105.84
2	6/12/79	18	28	0.515	0.4754	26.869	34.41	106.98
2	6/12/79	18	30	0.384	0.2535	14.329	35.09	107.66
2	6/12/79	18	32	0.259	0.1134	6.409	35.44	108.01
2	6/12/79	18	34	0.149	0.0389	2.196	35.58	108.15
2	6/12/79	18	36	0.125	0.0280	1.581	35.65	108.21
2	6/12/79	18	38	0.094	0.0171	0.964	35.69	108.26
2	6/12/79	18	40	0.076	0.0119	0.675	35.71	108.28
2	6/12/79	18	42	0.061	0.0079	0.445	35.73	108.30
2	6/12/79	18	44	0.055	0.0068	0.384	35.75	108.32
2	6/12/79	18	46	0.046	0.0052	0.294	35.76	108.33
2	6/12/79	18	48	0.040	0.0041	0.233	35.77	108.34
2	6/12/79	18	50	0.034	0.0031	0.173	35.77	108.34
2	6/12/79	18	52	0.027	0.0023	0.128	35.78	108.35
2	6/12/79	18	54	0.021	0.0018	0.100	35.78	108.35
2	6/12/79	18	56	0.018	0.0015	0.085	35.79	108.36
2	6/12/79	18	58	0.015	0.0013	0.071	35.79	108.36
2	6/12/79	19	0	0.012	0.0010	0.057	35.79	108.36
2	6/12/79	19	1	0.009	0.0008	0.043	35.79	108.36
2	6/12/79	19	3	0.006	0.0005	0.028	35.79	108.36
2	6/12/79	19	7	0.003	0.0003	0.014	35.79	108.36
2	6/12/79	19	12	0.0	0.0	0.0	35.79	108.36
2	6/27/79	0	9	0.0	0.0	0.0	0.0	108.36
2	6/27/79	0	10	0.021	0.0018	0.100	0.00	108.37
2	6/27/79	0	11	0.088	0.0152	0.858	0.01	108.37
2	6/27/79	0	12	0.131	0.0307	1.735	0.03	108.39
2	6/27/79	0	13	0.189	0.0609	3.441	0.07	108.44
2	6/27/79	0	14	0.283	0.1360	7.688	0.17	108.53
2	6/27/79	0	15	0.491	0.4279	24.181	0.43	108.80
2	6/27/79	0	16	0.661	0.8240	46.569	1.02	109.39
2	6/27/79	0	17	0.683	0.8846	49.994	1.83	110.19
2	6/27/79	0	18	0.686	0.8934	50.490	2.66	111.03
2	6/27/79	0	19	0.680	0.8758	49.498	3.50	111.86
2	6/27/79	0	20	0.652	0.7985	45.129	4.29	112.65
2	6/27/79	0	21	0.625	0.7263	41.048	5.00	113.37
2	6/27/79	0	22	0.594	0.6513	36.807	5.65	114.02
2	6/27/79	0	23	0.546	0.5375	30.374	6.21	114.58
2	6/27/79	0	24	0.479	0.4058	22.933	6.66	115.02
2	6/27/79	0	25	0.451	0.3579	20.228	7.02	115.38
2	6/27/79	0	26	0.405	0.2844	16.075	7.32	115.68
2	6/27/79	0	27	0.363	0.2246	12.691	7.56	115.92
2	6/27/79	0	28	0.335	0.1914	10.818	7.75	116.12
2	6/27/79	0	29	0.320	0.1744	9.858	7.93	116.29
2	6/27/79	0	30	0.296	0.1483	8.379	8.08	116.44
2	6/27/79	0	31	0.290	0.1422	8.034	8.22	116.58
2	6/27/79	0	32	0.283	0.1360	7.688	8.35	116.71
2	6/27/79	0	33	0.280	0.1330	7.515	8.47	116.84
2	6/27/79	0	34	0.287	0.1391	7.861	8.60	116.97
2	6/27/79	0	40	0.290	0.1422	8.034	9.40	117.76
2	6/27/79	0	41	0.293	0.1452	8.206	9.53	117.90
2	6/27/79	0	42	0.296	0.1483	8.379	9.67	118.03
2	6/27/79	0	43	0.302	0.1544	8.725	9.81	118.18
2	6/27/79	0	44	0.314	0.1676	9.474	9.96	118.33
2	6/27/79	0	45	0.329	0.1846	10.434	10.13	118.49
2	6/27/79	0	46	0.338	0.1951	11.026	10.31	118.67
2	6/27/79	0	47	0.351	0.2098	11.858	10.50	118.86
2	6/27/79	0	48	0.363	0.2246	12.691	10.70	119.07
2	6/27/79	0	49	0.369	0.2325	13.137	10.92	119.28
2	6/27/79	0	50	0.366	0.2282	12.899	11.14	119.50
2	6/27/79	0	51	0.363	0.2246	12.691	11.35	119.71
2	6/27/79	0	52	0.357	0.2172	12.274	11.56	119.92
2	6/27/79	0	53	0.338	0.1951	11.026	11.75	120.12
2	6/27/79	0	54	0.320	0.1744	9.858	11.93	120.29
2	6/27/79	0	55	0.302	0.1544	8.725	12.08	120.44
2	6/27/79	0	56	0.253	0.1080	6.105	12.20	120.57
2	6/27/79	0	57	0.223	0.0837	4.731	12.29	120.66
2	6/27/79	0	58	0.201	0.0688	3.889	12.37	120.73
2	6/27/79	0	59	0.177	0.0536	3.028	12.42	120.79
2	6/27/79	1	0	0.158	0.0436	2.461	12.47	120.83
2	6/27/79	1	1	0.137	0.0334	1.888	12.51	120.87
2	6/27/79	1	2	0.125	0.0280	1.581	12.53	120.90

TABLE D1- 2. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	6/27/79	1	3	0.113	0.0234	1.324	12.56	120.92
2	6/27/79	1	4	0.101	0.0192	1.084	12.58	120.94
2	6/27/79	1	5	0.094	0.0171	0.964	12.60	120.96
2	6/27/79	1	6	0.085	0.0144	0.812	12.61	120.97
2	6/27/79	1	7	0.079	0.0127	0.720	12.62	120.99
2	6/27/79	1	8	0.073	0.0111	0.629	12.63	121.00
2	6/27/79	1	9	0.064	0.0087	0.491	12.64	121.01
2	6/27/79	1	10	0.058	0.0073	0.415	12.65	121.02
2	6/27/79	1	11	0.055	0.0068	0.384	12.66	121.02
2	6/27/79	1	12	0.052	0.0063	0.354	12.66	121.03
2	6/27/79	1	13	0.049	0.0057	0.324	12.67	121.03
2	6/27/79	1	14	0.046	0.0052	0.294	12.67	121.04
2	6/27/79	1	15	0.043	0.0047	0.263	12.68	121.04
2	6/27/79	1	16	0.037	0.0036	0.203	12.68	121.05
2	6/27/79	1	17	0.030	0.0025	0.142	12.69	121.05
2	6/27/79	1	18	0.027	0.0023	0.128	12.69	121.05
2	6/27/79	1	19	0.024	0.0020	0.114	12.69	121.05
2	6/27/79	1	20	0.021	0.0018	0.100	12.69	121.06
2	6/27/79	1	22	0.018	0.0015	0.085	12.70	121.06
2	6/27/79	1	24	0.015	0.0013	0.071	12.70	121.06
2	6/27/79	1	26	0.012	0.0010	0.057	12.70	121.06
2	6/27/79	1	29	0.009	0.0008	0.043	12.70	121.07
2	6/27/79	1	31	0.006	0.0005	0.028	12.70	121.07
2	6/27/79	1	34	0.003	0.0003	0.014	12.70	121.07
2	6/27/79	1	45	0.0	0.0	0.0	12.71	121.07
2	7/ 3/79	7	58	0.0	0.0	0.0	0.0	121.07
2	7/ 3/79	8	0	0.006	0.0005	0.028	0.00	121.07
2	7/ 3/79	8	2	0.012	0.0010	0.057	0.00	121.07
2	7/ 3/79	8	4	0.018	0.0015	0.085	0.00	121.07
2	7/ 3/79	8	7	0.024	0.0020	0.114	0.01	121.08
2	7/ 3/79	8	12	0.027	0.0023	0.128	0.02	121.09
2	7/ 3/79	8	14	0.034	0.0031	0.173	0.02	121.09
2	7/ 3/79	8	16	0.037	0.0036	0.203	0.03	121.10
2	7/ 3/79	8	20	0.040	0.0041	0.233	0.05	121.12
2	7/ 3/79	8	22	0.046	0.0052	0.294	0.05	121.12
2	7/ 3/79	8	24	0.049	0.0057	0.324	0.06	121.13
2	7/ 3/79	8	28	0.046	0.0052	0.294	0.08	121.15
2	7/ 3/79	8	30	0.037	0.0036	0.203	0.09	121.16
2	7/ 3/79	8	32	0.030	0.0025	0.142	0.10	121.17
2	7/ 3/79	8	34	0.024	0.0020	0.114	0.10	121.17
2	7/ 3/79	8	36	0.021	0.0018	0.100	0.11	121.18
2	7/ 3/79	8	38	0.015	0.0013	0.071	0.11	121.18
2	7/ 3/79	8	40	0.009	0.0008	0.043	0.11	121.18
2	7/ 3/79	8	44	0.006	0.0005	0.028	0.11	121.18
2	7/ 3/79	8	46	0.012	0.0010	0.057	0.12	121.19
2	7/ 3/79	8	48	0.076	0.0119	0.675	0.13	121.20
2	7/ 3/79	8	50	0.131	0.0307	1.735	0.17	121.24
2	7/ 3/79	8	52	0.195	0.0648	3.665	0.26	121.33
2	7/ 3/79	8	54	0.347	0.2061	11.650	0.51	121.58
2	7/ 3/79	8	56	0.430	0.3222	18.212	1.01	122.08
2	7/ 3/79	8	58	0.451	0.3579	20.228	1.65	122.72
2	7/ 3/79	9	0	0.424	0.3125	17.660	2.28	123.35
2	7/ 3/79	9	2	0.405	0.2844	16.075	2.84	123.91
2	7/ 3/79	9	4	0.390	0.2620	14.806	3.36	124.43
2	7/ 3/79	9	6	0.378	0.2451	13.852	3.84	124.91
2	7/ 3/79	9	8	0.344	0.2025	11.442	4.26	125.33
2	7/ 3/79	9	10	0.305	0.1574	8.898	4.60	125.67
2	7/ 3/79	9	12	0.268	0.1215	6.865	4.86	125.93
2	7/ 3/79	9	14	0.238	0.0953	5.387	5.06	126.13
2	7/ 3/79	9	16	0.223	0.0837	4.731	5.23	126.30
2	7/ 3/79	9	18	0.216	0.0791	4.468	5.39	126.46
2	7/ 3/79	9	20	0.210	0.0748	4.225	5.53	126.60
2	7/ 3/79	9	22	0.213	0.0767	4.337	5.67	126.74
2	7/ 3/79	9	24	0.256	0.1107	6.257	5.85	126.92
2	7/ 3/79	9	26	0.378	0.2451	13.852	6.19	127.26
2	7/ 3/79	9	28	0.500	0.4457	25.189	6.84	127.91
2	7/ 3/79	9	30	0.597	0.6586	37.223	7.88	128.95
2	7/ 3/79	9	32	0.655	0.8070	45.609	9.26	130.33
2	7/ 3/79	9	34	0.701	0.9373	52.971	10.90	131.97
2	7/ 3/79	9	36	0.826	1.3567	76.671	13.06	134.13
2	7/ 3/79	9	38	0.884	1.5829	89.458	15.83	136.90
2	7/ 3/79	9	40	0.914	1.7075	96.499	18.93	140.00
2	7/ 3/79	9	44	0.972	1.9683	111.238	25.85	146.92
2	7/ 3/79	9	46	0.908	1.6826	95.091	29.29	150.36
2	7/ 3/79	9	48	0.756	1.1106	62.765	31.92	152.99
2	7/ 3/79	9	50	0.634	0.7493	42.345	33.68	154.75
2	7/ 3/79	9	52	0.445	0.3477	19.652	34.71	155.78
2	7/ 3/79	9	54	0.329	0.1846	10.434	35.21	156.28
2	7/ 3/79	9	56	0.256	0.1107	6.257	35.49	156.56
2	7/ 3/79	9	58	0.219	0.0814	4.599	35.67	156.74
2	7/ 3/79	10	0	0.180	0.0552	3.122	35.80	156.87
2	7/ 3/79	10	2	0.149	0.0389	2.196	35.89	156.96
2	7/ 3/79	10	4	0.122	0.0266	1.504	35.95	157.02
2	7/ 3/79	10	6	0.091	0.0160	0.904	35.99	157.06
2	7/ 3/79	10	8	0.073	0.0111	0.629	36.01	157.08
2	7/ 3/79	10	10	0.058	0.0073	0.415	36.03	157.10
2	7/ 3/79	10	12	0.046	0.0052	0.294	36.04	157.11
2	7/ 3/79	10	14	0.037	0.0036	0.203	36.05	157.12
2	7/ 3/79	10	16	0.034	0.0031	0.173	36.06	157.13
2	7/ 3/79	10	18	0.027	0.0023	0.128	36.06	157.13
2	7/ 3/79	10	22	0.021	0.0018	0.100	36.07	157.14
2	7/ 3/79	10	26	0.015	0.0013	0.071	36.08	157.15
2	7/ 3/79	10	28	0.012	0.0010	0.057	36.08	157.15
2	7/ 3/79	10	32	0.006	0.0005	0.028	36.08	157.15
2	7/ 3/79	10	38	0.0	0.0	0.0	36.08	157.15
2	7/ 3/79	20	46	0.0	0.0	0.0	0.0	157.15
2	7/ 3/79	20	47	0.052	0.0063	0.354	0.00	157.16
2	7/ 3/79	20	48	0.104	0.0202	1.144	0.02	157.17
2	7/ 3/79	20	49	0.158	0.0436	2.461	0.05	157.20
2	7/ 3/79	20	50	0.232	0.0907	5.124	0.11	157.26

TABLE D1- 2. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	7/ 3/79	20	51	0.366	0.2282	12.899	0.26	157.41
2	7/ 3/79	20	52	0.515	0.4754	26.869	0.59	157.74
2	7/ 3/79	20	53	0.543	0.5312	30.022	1.06	158.22
2	7/ 3/79	20	54	0.533	0.5125	28.966	1.56	158.71
2	7/ 3/79	20	55	0.500	0.4457	25.189	2.01	159.16
2	7/ 3/79	20	56	0.460	0.3735	21.108	2.39	159.55
2	7/ 3/79	20	57	0.415	0.2985	16.867	2.71	159.86
2	7/ 3/79	20	58	0.378	0.2451	13.852	2.97	160.12
2	7/ 3/79	20	59	0.341	0.1988	11.234	3.17	160.33
2	7/ 3/79	21	0	0.323	0.1778	10.050	3.35	160.50
2	7/ 3/79	21	1	0.274	0.1269	7.169	3.50	160.65
2	7/ 3/79	21	2	0.238	0.0953	5.387	3.60	160.75
2	7/ 3/79	21	3	0.207	0.0728	4.113	3.68	160.83
2	7/ 3/79	21	4	0.192	0.0629	3.553	3.74	160.90
2	7/ 3/79	21	5	0.168	0.0486	2.745	3.80	160.95
2	7/ 3/79	21	6	0.149	0.0389	2.196	3.84	160.99
2	7/ 3/79	21	7	0.134	0.0321	1.812	3.87	161.02
2	7/ 3/79	21	8	0.119	0.0256	1.444	3.90	161.05
2	7/ 3/79	21	9	0.110	0.0224	1.264	3.92	161.07
2	7/ 3/79	21	10	0.098	0.0181	1.024	3.94	161.09
2	7/ 3/79	21	11	0.088	0.0152	0.858	3.95	161.11
2	7/ 3/79	21	12	0.082	0.0136	0.766	3.97	161.12
2	7/ 3/79	21	13	0.076	0.0119	0.675	3.98	161.13
2	7/ 3/79	21	14	0.073	0.0111	0.629	3.99	161.14
2	7/ 3/79	21	15	0.070	0.0103	0.583	4.00	161.15
2	7/ 3/79	21	16	0.067	0.0095	0.537	4.01	161.16
2	7/ 3/79	21	18	0.061	0.0079	0.445	4.03	161.18
2	7/ 3/79	21	20	0.055	0.0068	0.384	4.04	161.19
2	7/ 3/79	21	23	0.052	0.0063	0.354	4.06	161.21
2	7/ 3/79	21	24	0.055	0.0068	0.384	4.07	161.22
2	7/ 3/79	21	25	0.058	0.0073	0.415	4.07	161.22
2	7/ 3/79	21	28	0.061	0.0079	0.445	4.09	161.25
2	7/ 3/79	21	30	0.064	0.0087	0.491	4.11	161.26
2	7/ 3/79	21	33	0.064	0.0087	0.491	4.13	161.29
2	7/ 3/79	21	35	0.061	0.0079	0.445	4.15	161.30
2	7/ 3/79	21	38	0.055	0.0068	0.384	4.17	161.32
2	7/ 3/79	21	42	0.037	0.0036	0.203	4.19	161.34
2	7/ 3/79	21	47	0.018	0.0015	0.085	4.20	161.35
2	7/ 3/79	21	50	0.009	0.0008	0.043	4.20	161.36
2	7/ 3/79	21	52	0.003	0.0003	0.014	4.21	161.36
2	7/ 3/79	21	55	0.0	0.0	0.0	4.21	161.36
2	7/13/79	9	52	0.0	0.0	0.0	0.0	161.36
2	7/13/79	9	54	0.006	0.0005	0.028	0.00	161.36
2	7/13/79	9	56	0.018	0.0015	0.085	0.00	161.36
2	7/13/79	9	58	0.012	0.0010	0.057	0.00	161.36
2	7/13/79	10	0	0.009	0.0008	0.043	0.01	161.36
2	7/13/79	10	8	0.012	0.0010	0.057	0.01	161.37
2	7/13/79	10	12	0.009	0.0008	0.043	0.02	161.37
2	7/13/79	10	14	0.006	0.0005	0.028	0.02	161.38
2	7/13/79	10	24	0.003	0.0003	0.014	0.02	161.38
2	7/13/79	10	40	0.0	0.0	0.0	0.02	161.38
2	7/13/79	20	2	0.0	0.0	0.0	0.02	161.38
2	7/13/79	20	3	0.015	0.0013	0.071	0.02	161.38
2	7/13/79	20	4	0.070	0.0103	0.583	0.03	161.39
2	7/13/79	20	5	0.152	0.0402	2.272	0.05	161.41
2	7/13/79	20	6	0.384	0.2535	14.329	0.19	161.55
2	7/13/79	20	7	0.561	0.5720	32.327	0.58	161.94
2	7/13/79	20	8	0.646	0.7815	44.169	1.22	162.58
2	7/13/79	20	9	0.652	0.7985	45.129	1.96	163.32
2	7/13/79	20	10	0.634	0.7493	42.345	2.69	164.05
2	7/13/79	20	11	0.604	0.6734	38.056	3.36	164.72
2	7/13/79	20	12	0.561	0.5720	32.327	3.95	165.30
2	7/13/79	20	13	0.503	0.4517	25.525	4.43	165.79
2	7/13/79	20	14	0.442	0.3426	19.364	4.80	166.16
2	7/13/79	20	15	0.399	0.2751	15.547	5.09	166.45
2	7/13/79	20	16	0.308	0.1608	9.090	5.30	166.66
2	7/13/79	20	17	0.287	0.1391	7.861	5.44	166.80
2	7/13/79	20	18	0.265	0.1188	6.713	5.56	166.92
2	7/13/79	20	19	0.241	0.0976	5.518	5.66	167.02
2	7/13/79	20	20	0.226	0.0860	4.862	5.75	167.11
2	7/13/79	20	21	0.207	0.0728	4.113	5.83	167.18
2	7/13/79	20	22	0.158	0.0436	2.461	5.88	167.24
2	7/13/79	20	23	0.131	0.0307	1.735	5.92	167.27
2	7/13/79	20	24	0.104	0.0202	1.144	5.94	167.30
2	7/13/79	20	25	0.076	0.0119	0.675	5.95	167.31
2	7/13/79	20	26	0.067	0.0095	0.537	5.96	167.32
2	7/13/79	20	27	0.061	0.0079	0.445	5.97	167.33
2	7/13/79	20	28	0.055	0.0068	0.384	5.98	167.34
2	7/13/79	20	30	0.049	0.0057	0.324	5.99	167.35
2	7/13/79	20	31	0.043	0.0047	0.263	6.00	167.35
2	7/13/79	20	33	0.037	0.0036	0.203	6.00	167.36
2	7/13/79	20	34	0.030	0.0025	0.142	6.01	167.36
2	7/13/79	20	35	0.024	0.0020	0.114	6.01	167.37
2	7/13/79	20	37	0.021	0.0018	0.100	6.01	167.37
2	7/13/79	20	39	0.018	0.0015	0.085	6.02	167.37
2	7/13/79	20	41	0.015	0.0013	0.071	6.02	167.38
2	7/13/79	20	43	0.012	0.0010	0.057	6.02	167.38
2	7/13/79	20	47	0.009	0.0008	0.043	6.02	167.38
2	7/13/79	20	50	0.006	0.0005	0.028	6.03	167.38
2	7/13/79	20	53	0.003	0.0003	0.014	6.03	167.38
2	7/13/79	21	0	0.0	0.0	0.0	6.03	167.38
2	7/14/79	0	44	0.0	0.0	0.0	6.03	167.38
2	7/14/79	0	46	0.037	0.0036	0.203	6.03	167.39
2	7/14/79	0	48	0.122	0.0266	1.504	6.06	167.42
2	7/14/79	0	50	0.232	0.0907	5.124	6.17	167.53
2	7/14/79	0	52	0.497	0.4398	24.853	6.67	168.03
2	7/14/79	0	54	0.765	1.1403	64.445	9.16	169.52
2	7/14/79	0	56	0.759	1.1202	63.309	10.29	171.64
2	7/14/79	0	58	0.640	0.7646	43.209	12.06	173.42
2	7/14/79	1	0	0.524	0.4938	27.910	13.25	174.60
2	7/14/79	1	2	0.564	0.5791	32.727	14.26	175.62
2	7/14/79	1	4	0.402	0.2798	15.811	15.07	176.42

TABLE 01- 2. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	7/14/79	1	6	0.491	0.4279	24.181	15.73	177.09
2	7/14/79	1	8	0.585	0.6292	35.559	16.73	178.09
2	7/14/79	1	10	0.591	0.6439	36.391	17.93	179.29
2	7/14/79	1	12	0.616	0.7034	39.752	19.20	180.55
2	7/14/79	1	14	0.689	0.9022	50.986	20.71	182.07
2	7/14/79	1	16	0.738	1.0528	59.500	22.55	183.91
2	7/14/79	1	18	0.607	0.6807	38.472	24.18	185.54
2	7/14/79	1	20	0.475	0.4004	22.629	25.20	186.56
2	7/14/79	1	22	0.402	0.2798	15.811	25.84	187.20
2	7/14/79	1	24	0.341	0.1988	11.234	26.29	187.65
2	7/14/79	1	26	0.287	0.1391	7.861	26.61	187.97
2	7/14/79	1	28	0.219	0.0814	4.599	26.82	188.18
2	7/14/79	1	30	0.244	0.1000	5.649	26.99	188.35
2	7/14/79	1	32	0.299	0.1513	8.552	27.23	188.58
2	7/14/79	1	34	0.378	0.2451	13.852	27.60	188.96
2	7/14/79	1	36	0.427	0.3171	17.924	28.13	189.49
2	7/14/79	1	37	0.439	0.3375	19.076	28.44	189.80
2	7/14/79	1	38	0.427	0.3171	17.924	28.75	190.10
2	7/14/79	1	40	0.381	0.2493	14.091	29.28	190.64
2	7/14/79	1	42	0.354	0.2135	12.066	29.72	191.07
2	7/14/79	1	44	0.396	0.2704	15.283	30.17	191.53
2	7/14/79	1	46	0.457	0.3681	20.804	30.77	192.13
2	7/14/79	1	48	0.445	0.3477	19.652	31.45	192.81
2	7/14/79	1	50	0.424	0.3125	17.660	32.07	193.43
2	7/14/79	1	52	0.375	0.2409	13.614	32.59	193.95
2	7/14/79	1	54	0.329	0.1846	10.434	32.99	194.35
2	7/14/79	1	56	0.250	0.1053	5.953	33.26	194.62
2	7/14/79	1	57	0.226	0.0860	4.862	33.35	194.71
2	7/14/79	1	58	0.201	0.0688	3.889	33.43	194.79
2	7/14/79	1	59	0.189	0.0609	3.441	33.49	194.85
2	7/14/79	2	0	0.174	0.0519	2.933	33.54	194.90
2	7/14/79	2	1	0.152	0.0402	2.272	33.59	194.94
2	7/14/79	2	2	0.137	0.0334	1.888	33.62	194.98
2	7/14/79	2	3	0.125	0.0280	1.581	33.65	195.01
2	7/14/79	2	4	0.116	0.0245	1.384	33.67	195.03
2	7/14/79	2	5	0.107	0.0213	1.204	33.70	195.05
2	7/14/79	2	7	0.101	0.0192	1.084	33.73	195.09
2	7/14/79	2	8	0.098	0.0181	1.024	33.75	195.11
2	7/14/79	2	9	0.091	0.0160	0.904	33.77	195.12
2	7/14/79	2	10	0.085	0.0144	0.812	33.78	195.14
2	7/14/79	2	11	0.079	0.0127	0.720	33.79	195.15
2	7/14/79	2	12	0.073	0.0111	0.629	33.81	195.16
2	7/14/79	2	14	0.067	0.0095	0.537	33.82	195.18
2	7/14/79	2	17	0.061	0.0079	0.445	33.85	195.21
2	7/14/79	2	19	0.055	0.0068	0.384	33.86	195.22
2	7/14/79	2	22	0.049	0.0057	0.324	33.88	195.24
2	7/14/79	2	23	0.046	0.0052	0.294	33.89	195.24
2	7/14/79	2	26	0.037	0.0036	0.203	33.90	195.26
2	7/14/79	2	30	0.034	0.0031	0.173	33.91	195.27
2	7/14/79	2	33	0.030	0.0025	0.142	33.92	195.28
2	7/14/79	2	36	0.027	0.0023	0.128	33.93	195.28
2	7/14/79	2	38	0.024	0.0020	0.114	33.93	195.29
2	7/14/79	2	40	0.021	0.0018	0.100	33.93	195.29
2	7/14/79	2	42	0.018	0.0015	0.085	33.94	195.29
2	7/14/79	2	43	0.030	0.0025	0.142	33.94	195.30
2	7/14/79	2	44	0.043	0.0047	0.263	33.94	195.30
2	7/14/79	2	46	0.046	0.0052	0.294	33.95	195.31
2	7/14/79	2	47	0.049	0.0057	0.324	33.96	195.31
2	7/14/79	2	49	0.052	0.0063	0.354	33.97	195.32
2	7/14/79	2	50	0.055	0.0068	0.384	33.97	195.33
2	7/14/79	2	52	0.052	0.0063	0.354	33.99	195.34
2	7/14/79	2	53	0.049	0.0057	0.324	33.99	195.35
2	7/14/79	2	56	0.043	0.0047	0.263	34.01	195.36
2	7/14/79	2	58	0.037	0.0036	0.203	34.01	195.37
2	7/14/79	3	0	0.030	0.0025	0.142	34.02	195.38
2	7/14/79	3	4	0.024	0.0020	0.114	34.03	195.39
2	7/14/79	3	6	0.021	0.0018	0.100	34.03	195.39
2	7/14/79	3	9	0.018	0.0015	0.085	34.04	195.39
2	7/14/79	3	15	0.012	0.0010	0.057	34.04	195.40
2	7/14/79	3	20	0.006	0.0005	0.028	34.05	195.40
2	7/14/79	3	27	0.0	0.0	0.0	34.05	195.41
2	7/14/79	3	53	0.0	0.0	0.0	34.05	195.41
2	7/14/79	3	54	0.006	0.0005	0.028	34.05	195.41
2	7/14/79	3	55	0.018	0.0015	0.085	34.05	195.41
2	7/14/79	3	56	0.037	0.0036	0.203	34.05	195.41
2	7/14/79	3	58	0.043	0.0047	0.263	34.06	195.42
2	7/14/79	4	1	0.049	0.0057	0.324	34.07	195.43
2	7/14/79	4	2	0.055	0.0068	0.384	34.08	195.44
2	7/14/79	4	3	0.058	0.0073	0.415	34.09	195.44
2	7/14/79	4	6	0.055	0.0068	0.384	34.11	195.46
2	7/14/79	4	9	0.049	0.0057	0.324	34.12	195.48
2	7/14/79	4	12	0.043	0.0047	0.263	34.14	195.50
2	7/14/79	4	15	0.037	0.0036	0.203	34.15	195.51
2	7/14/79	4	19	0.030	0.0025	0.142	34.16	195.52
2	7/14/79	4	23	0.027	0.0023	0.128	34.17	195.53
2	7/14/79	4	27	0.024	0.0020	0.114	34.18	195.54
2	7/14/79	4	28	0.021	0.0018	0.100	34.18	195.54
2	7/14/79	4	30	0.018	0.0015	0.085	34.18	195.54
2	7/14/79	4	35	0.012	0.0010	0.057	34.19	195.55
2	7/14/79	4	39	0.006	0.0005	0.028	34.19	195.55
2	7/14/79	4	47	0.0	0.0	0.0	34.19	195.55
2	7/14/79	5	27	0.0	0.0	0.0	34.19	195.55
2	7/14/79	5	28	0.006	0.0005	0.028	34.20	195.55
2	7/14/79	5	29	0.015	0.0013	0.071	34.20	195.55
2	7/14/79	5	30	0.021	0.0018	0.100	34.20	195.55
2	7/14/79	5	31	0.018	0.0015	0.085	34.20	195.56
2	7/14/79	5	32	0.043	0.0047	0.263	34.20	195.56
2	7/14/79	5	35	0.046	0.0052	0.294	34.22	195.57
2	7/14/79	5	36	0.043	0.0047	0.263	34.22	195.58
2	7/14/79	5	38	0.037	0.0036	0.203	34.23	195.59
2	7/14/79	5	39	0.034	0.0031	0.173	34.23	195.59
2	7/14/79	5	42	0.030	0.0025	0.142	34.24	195.60
2	7/14/79	5	44	0.024	0.0020	0.114	34.24	195.60
2	7/14/79	5	47	0.018	0.0015	0.085	34.25	195.61

TABLE D1- 2. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	7/14/79	5	50	0.012	0.0010	0.057	34.25	195.61
2	7/14/79	5	53	0.006	0.0005	0.028	34.25	195.61
2	7/14/79	5	57	0.0	0.0	0.0	34.26	195.61
2	8/19/79	2	26	0.0	0.0	0.0	0.0	195.61
2	8/19/79	2	27	0.027	0.0023	0.128	0.00	195.61
2	8/19/79	2	28	0.034	0.0031	0.173	0.00	195.62
2	8/19/79	2	29	0.037	0.0036	0.203	0.01	195.62
2	8/19/79	2	30	0.030	0.0025	0.142	0.01	195.62
2	8/19/79	2	31	0.027	0.0023	0.128	0.01	195.62
2	8/19/79	2	33	0.030	0.0025	0.142	0.02	195.63
2	8/19/79	2	34	0.034	0.0031	0.173	0.02	195.63
2	8/19/79	2	36	0.027	0.0023	0.128	0.02	195.64
2	8/19/79	2	37	0.024	0.0020	0.114	0.03	195.64
2	8/19/79	2	39	0.018	0.0015	0.085	0.03	195.64
2	8/19/79	2	40	0.012	0.0010	0.057	0.03	195.64
2	8/19/79	2	41	0.006	0.0005	0.028	0.03	195.64
2	8/19/79	2	42	0.0	0.0	0.0	0.03	195.64
2	8/19/79	5	25	0.0	0.0	0.0	0.03	195.64
2	8/19/79	5	26	0.015	0.0013	0.071	0.03	195.64
2	8/19/79	5	27	0.024	0.0020	0.114	0.03	195.65
2	8/19/79	5	28	0.034	0.0031	0.173	0.04	195.65
2	8/19/79	5	29	0.040	0.0041	0.233	0.04	195.65
2	8/19/79	5	31	0.037	0.0036	0.203	0.05	195.66
2	8/19/79	5	32	0.030	0.0025	0.142	0.05	195.66
2	8/19/79	5	33	0.024	0.0020	0.114	0.05	195.66
2	8/19/79	5	35	0.021	0.0018	0.100	0.06	195.67
2	8/19/79	5	36	0.024	0.0020	0.114	0.06	195.67
2	8/19/79	5	37	0.030	0.0025	0.142	0.06	195.67
2	8/19/79	5	39	0.034	0.0031	0.173	0.06	195.68
2	8/19/79	5	40	0.037	0.0036	0.203	0.07	195.68
2	8/19/79	5	41	0.049	0.0057	0.324	0.07	195.68
2	8/19/79	5	42	0.055	0.0068	0.384	0.08	195.69
2	8/19/79	5	45	0.058	0.0073	0.415	0.10	195.71
2	8/19/79	5	47	0.055	0.0068	0.384	0.11	195.72
2	8/19/79	5	49	0.049	0.0057	0.324	0.12	195.74
2	8/19/79	5	50	0.043	0.0047	0.263	0.13	195.74
2	8/19/79	5	51	0.037	0.0036	0.203	0.13	195.74
2	8/19/79	5	53	0.030	0.0025	0.142	0.14	195.75
2	8/19/79	5	56	0.024	0.0020	0.114	0.14	195.76
2	8/19/79	5	58	0.037	0.0036	0.203	0.15	195.76
2	8/19/79	5	59	0.052	0.0063	0.354	0.15	195.77
2	8/19/79	6	0	0.064	0.0087	0.491	0.16	195.77
2	8/19/79	6	1	0.070	0.0103	0.583	0.17	195.78
2	8/19/79	6	3	0.076	0.0119	0.675	0.19	195.80
2	8/19/79	6	5	0.073	0.0111	0.629	0.21	195.82
2	8/19/79	6	8	0.061	0.0079	0.445	0.24	195.85
2	8/19/79	6	9	0.055	0.0068	0.384	0.25	195.86
2	8/19/79	6	11	0.049	0.0057	0.324	0.26	195.87
2	8/19/79	6	12	0.043	0.0047	0.263	0.26	195.88
2	8/19/79	6	14	0.034	0.0031	0.173	0.27	195.88
2	8/19/79	6	17	0.030	0.0025	0.142	0.28	195.89
2	8/19/79	6	20	0.034	0.0031	0.173	0.29	195.90
2	8/19/79	6	23	0.030	0.0025	0.142	0.29	195.91
2	8/19/79	6	26	0.027	0.0023	0.128	0.30	195.91
2	8/19/79	6	27	0.030	0.0025	0.142	0.30	195.91
2	8/19/79	6	29	0.037	0.0036	0.203	0.31	195.92
2	8/19/79	6	31	0.030	0.0025	0.142	0.31	195.93
2	8/19/79	6	34	0.021	0.0018	0.100	0.32	195.93
2	8/19/79	6	36	0.018	0.0015	0.085	0.32	195.94
2	8/19/79	6	40	0.015	0.0013	0.071	0.33	195.94
2	8/19/79	6	44	0.012	0.0010	0.057	0.33	195.95
2	8/19/79	6	50	0.006	0.0005	0.028	0.34	195.95
2	8/19/79	6	55	0.0	0.0	0.0	0.34	195.95
2	8/19/79	21	1	0.0	0.0	0.0	0.0	195.95
2	8/19/79	21	2	0.006	0.0005	0.028	0.00	195.95
2	8/19/79	21	3	0.015	0.0013	0.071	0.00	195.95
2	8/19/79	21	4	0.021	0.0018	0.100	0.00	195.95
2	8/19/79	21	5	0.030	0.0025	0.142	0.00	195.96
2	8/19/79	21	6	0.034	0.0031	0.173	0.01	195.96
2	8/19/79	21	7	0.030	0.0025	0.142	0.01	195.96
2	8/19/79	21	9	0.024	0.0020	0.114	0.01	195.96
2	8/19/79	21	11	0.021	0.0018	0.100	0.02	195.97
2	8/19/79	21	15	0.021	0.0018	0.100	0.02	195.97
2	8/19/79	21	17	0.024	0.0020	0.114	0.03	195.98
2	8/19/79	21	18	0.030	0.0025	0.142	0.03	195.98
2	8/19/79	21	19	0.040	0.0041	0.233	0.03	195.98
2	8/19/79	21	20	0.049	0.0057	0.324	0.04	195.99
2	8/19/79	21	21	0.052	0.0063	0.354	0.04	195.99
2	8/19/79	21	22	0.055	0.0068	0.384	0.05	196.00
2	8/19/79	21	24	0.061	0.0079	0.445	0.06	196.01
2	8/19/79	21	27	0.067	0.0095	0.537	0.09	196.04
2	8/19/79	21	29	0.073	0.0111	0.629	0.11	196.06
2	8/19/79	21	31	0.076	0.0119	0.675	0.13	196.08
2	8/19/79	21	33	0.073	0.0111	0.629	0.15	196.10
2	8/19/79	21	34	0.067	0.0095	0.537	0.16	196.11
2	8/19/79	21	36	0.061	0.0079	0.445	0.18	196.13
2	8/19/79	21	37	0.055	0.0068	0.384	0.18	196.13
2	8/19/79	21	38	0.052	0.0063	0.354	0.19	196.14
2	8/19/79	21	39	0.049	0.0057	0.324	0.20	196.15
2	8/19/79	21	41	0.046	0.0052	0.294	0.21	196.16
2	8/19/79	21	43	0.049	0.0057	0.324	0.22	196.17
2	8/19/79	21	44	0.052	0.0063	0.354	0.22	196.17
2	8/19/79	21	45	0.058	0.0073	0.415	0.23	196.18
2	8/19/79	21	46	0.061	0.0079	0.445	0.24	196.19
2	8/19/79	21	48	0.055	0.0068	0.384	0.25	196.20
2	8/19/79	21	51	0.040	0.0041	0.233	0.26	196.21
2	8/19/79	21	53	0.030	0.0025	0.142	0.27	196.22
2	8/19/79	21	54	0.024	0.0020	0.114	0.27	196.22
2	8/19/79	21	56	0.018	0.0015	0.085	0.28	196.23
2	8/19/79	21	58	0.012	0.0010	0.057	0.28	196.23

TABLE D1- 2. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	8/19/79	21	59	0.009	0.0008	0.043	0.28	196.23
2	8/19/79	22	2	0.006	0.0005	0.028	0.28	196.23
2	8/19/79	22	17	0.003	0.0003	0.014	0.29	196.24
2	8/19/79	22	19	0.006	0.0005	0.028	0.29	196.24
2	8/19/79	22	20	0.024	0.0020	0.114	0.29	196.24
2	8/19/79	22	21	0.040	0.0041	0.233	0.29	196.24
2	8/19/79	22	22	0.055	0.0068	0.384	0.30	196.25
2	8/19/79	22	23	0.064	0.0087	0.491	0.30	196.25
2	8/19/79	22	27	0.061	0.0079	0.445	0.34	196.29
2	8/19/79	22	29	0.052	0.0063	0.354	0.35	196.30
2	8/19/79	22	30	0.049	0.0057	0.324	0.35	196.30
2	8/19/79	22	32	0.040	0.0041	0.233	0.36	196.31
2	8/19/79	22	35	0.030	0.0025	0.142	0.37	196.32
2	8/19/79	22	38	0.024	0.0020	0.114	0.38	196.33
2	8/19/79	22	41	0.018	0.0015	0.085	0.38	196.33
2	8/19/79	22	44	0.015	0.0013	0.071	0.39	196.34
2	8/19/79	22	50	0.012	0.0010	0.057	0.39	196.34
2	8/19/79	22	55	0.015	0.0013	0.071	0.40	196.35
2	8/19/79	22	56	0.018	0.0015	0.085	0.40	196.35
2	8/19/79	22	57	0.024	0.0020	0.114	0.40	196.35
2	8/19/79	22	58	0.027	0.0023	0.128	0.40	196.35
2	8/19/79	23	1	0.024	0.0020	0.114	0.41	196.36
2	8/19/79	23	5	0.018	0.0015	0.085	0.42	196.37
2	8/19/79	23	8	0.015	0.0013	0.071	0.42	196.37
2	8/19/79	23	15	0.009	0.0008	0.043	0.43	196.38
2	8/19/79	23	22	0.003	0.0003	0.014	0.43	196.38
2	8/19/79	23	30	0.0	0.0	0.0	0.43	196.38
2	8/21/79	18	43	0.0	0.0	0.0	0.0	196.38
2	8/21/79	18	44	0.006	0.0005	0.028	0.00	196.38
2	8/21/79	18	45	0.009	0.0008	0.043	0.00	196.38
2	8/21/79	18	46	0.018	0.0015	0.085	0.00	196.38
2	8/21/79	18	47	0.037	0.0036	0.203	0.00	196.39
2	8/21/79	18	48	0.070	0.0103	0.583	0.01	196.39
2	8/21/79	18	49	0.091	0.0160	0.904	0.02	196.41
2	8/21/79	18	50	0.113	0.0234	1.324	0.04	196.42
2	8/21/79	18	51	0.140	0.0348	1.965	0.07	196.45
2	8/21/79	18	52	0.149	0.0389	2.196	0.10	196.49
2	8/21/79	18	53	0.158	0.0436	2.461	0.14	196.53
2	8/21/79	18	54	0.165	0.0469	2.650	0.19	196.57
2	8/21/79	18	55	0.168	0.0486	2.745	0.23	196.61
2	8/21/79	18	57	0.171	0.0502	2.839	0.32	196.71
2	8/21/79	18	58	0.186	0.0589	3.329	0.37	196.76
2	8/21/79	18	59	0.198	0.0668	3.777	0.43	196.82
2	8/21/79	19	0	0.204	0.0708	4.001	0.50	196.88
2	8/21/79	19	1	0.210	0.0748	4.225	0.57	196.95
2	8/21/79	19	2	0.213	0.0767	4.337	0.64	197.02
2	8/21/79	19	3	0.219	0.0814	4.599	0.71	197.10
2	8/21/79	19	5	0.213	0.0767	4.337	0.86	197.24
2	8/21/79	19	6	0.207	0.0728	4.113	0.93	197.31
2	8/21/79	19	8	0.201	0.0688	3.889	1.07	197.45
2	8/21/79	19	9	0.195	0.0648	3.665	1.13	197.51
2	8/21/79	19	10	0.186	0.0589	3.329	1.19	197.57
2	8/21/79	19	11	0.177	0.0536	3.028	1.24	197.62
2	8/21/79	19	12	0.168	0.0486	2.745	1.29	197.67
2	8/21/79	19	13	0.158	0.0436	2.461	1.33	197.71
2	8/21/79	19	17	0.134	0.0321	1.812	1.47	197.86
2	8/21/79	19	20	0.119	0.0256	1.444	1.56	197.94
2	8/21/79	19	22	0.104	0.0202	1.144	1.60	197.98
2	8/21/79	19	23	0.098	0.0181	1.024	1.62	198.00
2	8/21/79	19	24	0.088	0.0152	0.858	1.63	198.01
2	8/21/79	19	25	0.082	0.0136	0.766	1.65	198.03
2	8/21/79	19	26	0.073	0.0111	0.629	1.66	198.04
2	8/21/79	19	27	0.067	0.0095	0.537	1.67	198.05
2	8/21/79	19	28	0.061	0.0079	0.445	1.68	198.06
2	8/21/79	19	30	0.055	0.0068	0.384	1.69	198.07
2	8/21/79	19	31	0.052	0.0063	0.354	1.70	198.08
2	8/21/79	19	33	0.043	0.0047	0.263	1.71	198.09
2	8/21/79	19	35	0.034	0.0031	0.173	1.71	198.09
2	8/21/79	19	36	0.030	0.0025	0.142	1.72	198.10
2	8/21/79	19	38	0.024	0.0020	0.114	1.72	198.10
2	8/21/79	19	42	0.021	0.0018	0.100	1.73	198.11
2	8/21/79	19	47	0.021	0.0018	0.100	1.74	198.12
2	8/21/79	19	57	0.024	0.0020	0.114	1.75	198.14
2	8/21/79	20	0	0.024	0.0020	0.114	1.76	198.14
2	8/21/79	20	4	0.021	0.0018	0.100	1.77	198.15
2	8/21/79	20	8	0.018	0.0015	0.085	1.77	198.15
2	8/21/79	20	10	0.012	0.0010	0.057	1.77	198.16
2	8/21/79	20	12	0.006	0.0005	0.028	1.78	198.16
2	8/21/79	20	15	0.0	0.0	0.0	1.78	198.16
2	10/22/79	3	44	0.0	0.0	0.0	0.0	198.16
2	10/22/79	3	54	0.003	0.0003	0.014	0.00	198.16
2	10/22/79	4	13	0.003	0.0003	0.014	0.01	198.16
2	10/22/79	4	25	0.006	0.0005	0.028	0.01	198.17
2	10/22/79	4	38	0.009	0.0008	0.043	0.02	198.18
2	10/22/79	4	57	0.012	0.0010	0.057	0.03	198.19
2	10/22/79	5	2	0.015	0.0013	0.071	0.04	198.20
2	10/22/79	5	8	0.018	0.0015	0.085	0.05	198.21
2	10/22/79	5	15	0.018	0.0015	0.085	0.06	198.22
2	10/22/79	5	18	0.021	0.0018	0.100	0.06	198.22
2	10/22/79	5	23	0.024	0.0020	0.114	0.07	198.23
2	10/22/79	5	29	0.024	0.0020	0.114	0.08	198.24
2	10/22/79	5	34	0.027	0.0023	0.128	0.09	198.25
2	10/22/79	5	56	0.027	0.0023	0.128	0.14	198.30
2	10/22/79	6	7	0.024	0.0020	0.114	0.16	198.32
2	10/22/79	6	9	0.027	0.0023	0.128	0.16	198.32
2	10/22/79	6	20	0.027	0.0023	0.128	0.19	198.35
2	10/22/79	6	28	0.024	0.0020	0.114	0.20	198.36
2	10/22/79	6	44	0.021	0.0018	0.100	0.23	198.39
2	10/22/79	6	57	0.018	0.0015	0.085	0.25	198.41
2	10/22/79	7	0	0.024	0.0020	0.114	0.26	198.42

TABLE D1- 2. CONCLUDED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	10/22/79	7	9	0.027	0.0023	0.128	0.28	198.43
2	10/22/79	7	16	0.024	0.0020	0.114	0.29	198.45
2	10/22/79	7	40	0.024	0.0020	0.114	0.34	198.49
2	10/22/79	8	4	0.018	0.0015	0.085	0.38	198.53
2	10/22/79	8	24	0.012	0.0010	0.057	0.40	198.56
2	10/22/79	8	44	0.006	0.0005	0.028	0.41	198.57
2	10/22/79	9	0	0.0	0.0	0.0	0.42	198.58
2	10/22/79	10	0	0.0	0.0	0.0	0.42	198.58
2	10/22/79	10	25	0.012	0.0010	0.057	0.43	198.59
2	10/22/79	10	42	0.024	0.0020	0.114	0.45	198.61
2	10/22/79	11	6	0.037	0.0036	0.203	0.52	198.68
2	10/22/79	11	26	0.049	0.0057	0.324	0.60	198.76
2	10/22/79	11	48	0.061	0.0079	0.445	0.75	198.90
2	10/22/79	12	8	0.073	0.0111	0.629	0.92	199.08
2	10/22/79	12	16	0.055	0.0068	0.384	0.99	199.15
2	10/22/79	12	26	0.037	0.0036	0.203	1.04	199.20
2	10/22/79	12	38	0.018	0.0015	0.085	1.07	199.23
2	10/22/79	12	48	0.006	0.0005	0.028	1.08	199.24
2	10/22/79	13	0	0.0	0.0	0.0	1.08	199.24

TABLE D1- 3. FOUR MILE CREEK WATERSHED RUNOFF DATA FOR 1979 SITE 3

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	3/16/79	12	0	0.0	0.0	0.0	0.0	0.0
3	3/16/79	18	44	0.061	0.0079	0.478	1.61	1.61
3	3/16/79	19	0	0.061	0.0079	0.478	1.74	1.74
3	3/16/79	19	1	0.058	0.0073	0.445	1.74	1.74
3	3/16/79	19	14	0.055	0.0068	0.413	1.84	1.84
3	3/16/79	19	24	0.052	0.0063	0.380	1.90	1.90
3	3/16/79	19	39	0.049	0.0057	0.348	1.99	1.99
3	3/16/79	19	56	0.046	0.0052	0.315	2.09	2.09
3	3/16/79	20	15	0.043	0.0047	0.283	2.18	2.18
3	3/16/79	20	32	0.040	0.0041	0.250	2.26	2.26
3	3/16/79	20	50	0.037	0.0036	0.218	2.33	2.33
3	3/16/79	21	13	0.034	0.0031	0.185	2.41	2.41
3	3/16/79	21	36	0.030	0.0025	0.153	2.47	2.47
3	3/16/79	22	7	0.027	0.0023	0.138	2.55	2.55
3	3/16/79	22	35	0.024	0.0020	0.122	2.61	2.61
3	3/16/79	23	12	0.021	0.0018	0.107	2.68	2.68
3	3/16/79	23	34	0.018	0.0015	0.092	2.71	2.71
3	3/17/79	0	5	0.015	0.0013	0.076	2.76	2.76
3	3/17/79	0	36	0.012	0.0010	0.061	2.79	2.79
3	3/17/79	1	5	0.009	0.0008	0.046	2.82	2.82
3	3/17/79	1	31	0.006	0.0005	0.031	2.84	2.84
3	3/17/79	1	45	0.003	0.0003	0.015	2.84	2.84
3	3/17/79	2	0	0.0	0.0	0.0	2.84	2.84
3	3/17/79	6	38	0.0	0.0	0.0	2.84	2.84
3	3/17/79	6	52	0.003	0.0003	0.015	2.84	2.84
3	3/17/79	7	37	0.006	0.0005	0.031	2.86	2.86
3	3/17/79	8	9	0.009	0.0008	0.046	2.88	2.88
3	3/17/79	8	40	0.012	0.0010	0.061	2.91	2.91
3	3/17/79	9	16	0.015	0.0013	0.076	2.95	2.95
3	3/17/79	10	0	0.018	0.0015	0.092	3.01	3.01
3	3/17/79	10	40	0.021	0.0018	0.107	3.08	3.08
3	3/17/79	11	12	0.024	0.0020	0.122	3.14	3.14
3	3/17/79	11	42	0.027	0.0023	0.138	3.21	3.21
3	3/17/79	12	12	0.030	0.0025	0.153	3.28	3.28
3	3/17/79	12	35	0.034	0.0031	0.185	3.34	3.34
3	3/17/79	12	54	0.037	0.0036	0.218	3.41	3.41
3	3/17/79	13	10	0.040	0.0041	0.250	3.47	3.47
3	3/17/79	13	21	0.043	0.0047	0.283	3.52	3.52
3	3/17/79	13	33	0.046	0.0052	0.315	3.58	3.58
3	3/17/79	13	44	0.049	0.0057	0.348	3.64	3.64
3	3/17/79	13	50	0.052	0.0063	0.380	3.68	3.68
3	3/17/79	13	55	0.055	0.0068	0.413	3.71	3.71
3	3/17/79	14	0	0.058	0.0073	0.445	3.74	3.74
3	3/17/79	14	7	0.061	0.0079	0.478	3.80	3.80
3	3/17/79	14	12	0.064	0.0087	0.527	3.84	3.84
3	3/17/79	14	21	0.067	0.0095	0.577	3.92	3.92
3	3/17/79	14	30	0.070	0.0103	0.626	4.01	4.01
3	3/17/79	14	43	0.073	0.0111	0.675	4.15	4.15
3	3/17/79	15	6	0.076	0.0119	0.725	4.42	4.42
3	3/17/79	15	26	0.079	0.0127	0.774	4.67	4.67
3	3/17/79	15	44	0.076	0.0119	0.725	4.90	4.90
3	3/17/79	16	1	0.073	0.0111	0.675	5.09	5.09
3	3/17/79	16	15	0.070	0.0103	0.626	5.25	5.25
3	3/17/79	16	29	0.067	0.0095	0.577	5.39	5.39
3	3/17/79	16	47	0.064	0.0087	0.527	5.55	5.55
3	3/17/79	17	3	0.061	0.0079	0.478	5.69	5.69
3	3/17/79	17	25	0.058	0.0073	0.445	5.86	5.86
3	3/17/79	17	42	0.055	0.0068	0.413	5.98	5.98
3	3/17/79	18	8	0.052	0.0063	0.380	6.15	6.15
3	3/17/79	18	40	0.049	0.0057	0.348	6.34	6.34
3	3/17/79	19	26	0.046	0.0052	0.315	6.60	6.60
3	3/17/79	20	51	0.043	0.0047	0.283	7.02	7.02
3	3/18/79	0	25	0.040	0.0041	0.250	7.97	7.97
3	3/18/79	1	20	0.037	0.0036	0.218	8.19	8.19
3	3/18/79	1	44	0.037	0.0036	0.218	8.27	8.27
3	3/18/79	2	52	0.040	0.0041	0.250	8.54	8.54
3	3/18/79	3	8	0.043	0.0047	0.283	8.61	8.61
3	3/18/79	3	25	0.046	0.0052	0.315	8.70	8.70
3	3/18/79	3	46	0.049	0.0057	0.348	8.81	8.81
3	3/18/79	4	40	0.049	0.0057	0.348	9.13	9.13
3	3/18/79	4	53	0.052	0.0063	0.380	9.20	9.20
3	3/18/79	5	8	0.055	0.0068	0.413	9.30	9.30
3	3/18/79	6	16	0.055	0.0068	0.413	9.77	9.77
3	3/18/79	6	40	0.052	0.0063	0.380	9.93	9.93
3	3/18/79	7	8	0.049	0.0057	0.348	10.10	10.10
3	3/18/79	7	50	0.046	0.0052	0.315	10.33	10.33
3	3/18/79	9	10	0.043	0.0047	0.283	10.73	10.73
3	3/18/79	10	22	0.046	0.0052	0.315	11.09	11.09
3	3/18/79	10	38	0.049	0.0057	0.348	11.18	11.18
3	3/18/79	10	56	0.049	0.0057	0.348	11.28	11.28
3	3/18/79	11	12	0.052	0.0063	0.380	11.38	11.38
3	3/18/79	11	17	0.055	0.0068	0.413	11.41	11.41
3	3/18/79	11	22	0.058	0.0073	0.445	11.45	11.45
3	3/18/79	11	24	0.061	0.0079	0.478	11.46	11.46
3	3/18/79	11	28	0.064	0.0087	0.527	11.50	11.50
3	3/18/79	11	38	0.067	0.0095	0.577	11.59	11.59
3	3/18/79	11	54	0.070	0.0103	0.626	11.75	11.75
3	3/18/79	12	13	0.073	0.0111	0.675	11.96	11.96
3	3/18/79	12	40	0.073	0.0111	0.675	12.26	12.26
3	3/18/79	13	5	0.070	0.0103	0.626	12.53	12.53
3	3/18/79	13	16	0.067	0.0095	0.577	12.64	12.64
3	3/18/79	13	36	0.064	0.0087	0.527	12.83	12.83
3	3/18/79	14	10	0.061	0.0079	0.478	13.11	13.11
3	3/18/79	15	24	0.064	0.0087	0.527	13.73	13.73
3	3/18/79	15	32	0.067	0.0095	0.577	13.80	13.80
3	3/18/79	15	42	0.070	0.0103	0.626	13.90	13.90
3	3/18/79	15	52	0.073	0.0111	0.675	14.01	14.01
3	3/18/79	16	4	0.076	0.0119	0.725	14.15	14.15
3	3/18/79	16	25	0.079	0.0127	0.774	14.41	14.41
3	3/18/79	16	36	0.082	0.0136	0.823	14.56	14.56
3	3/18/79	17	4	0.082	0.0136	0.823	14.95	14.95
3	3/18/79	18	11	0.079	0.0127	0.774	15.84	15.84
3	3/18/79	20	35	0.076	0.0119	0.725	17.64	17.64
3	3/18/79	21	36	0.073	0.0111	0.675	18.35	18.35

TABLE D1- 3. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	3/18/79	22	28	0.073	0.0103	0.626	18.91	18.91
3	3/18/79	23	8	0.067	0.0095	0.577	19.31	19.31
3	3/18/79	23	42	0.064	0.0087	0.527	19.62	19.62
3	3/19/79	0	30	0.061	0.0079	0.478	20.03	20.03
3	3/19/79	0	39	0.064	0.0087	0.527	20.10	20.10
3	3/19/79	0	44	0.067	0.0095	0.577	20.15	20.15
3	3/19/79	0	50	0.067	0.0095	0.577	20.21	20.21
3	3/19/79	1	3	0.064	0.0087	0.527	20.32	20.32
3	3/19/79	1	42	0.061	0.0079	0.478	20.65	20.65
3	3/19/79	2	8	0.058	0.0073	0.445	20.85	20.85
3	3/19/79	2	29	0.058	0.0073	0.445	21.01	21.01
3	3/19/79	3	48	0.055	0.0068	0.413	21.57	21.57
3	3/19/79	4	29	0.052	0.0063	0.380	21.84	21.84
3	3/19/79	5	20	0.049	0.0057	0.348	22.15	22.15
3	3/19/79	7	3	0.046	0.0052	0.315	22.72	22.72
3	3/19/79	8	18	0.046	0.0052	0.315	23.12	23.12
3	3/19/79	12	40	0.046	0.0052	0.315	24.49	24.49
3	3/19/79	15	40	0.043	0.0047	0.283	25.39	25.39
3	3/19/79	16	52	0.040	0.0041	0.250	25.71	25.71
3	3/19/79	17	45	0.037	0.0036	0.218	25.92	25.92
3	3/19/79	18	21	0.034	0.0031	0.185	26.04	26.04
3	3/19/79	19	0	0.030	0.0025	0.153	26.15	26.15
3	3/19/79	19	35	0.027	0.0023	0.138	26.23	26.23
3	3/19/79	20	14	0.024	0.0020	0.122	26.32	26.32
3	3/19/79	21	6	0.021	0.0018	0.107	26.42	26.42
3	3/19/79	21	54	0.018	0.0015	0.092	26.50	26.50
3	3/19/79	23	22	0.015	0.0013	0.076	26.62	26.62
3	3/20/79	1	14	0.012	0.0010	0.061	26.75	26.75
3	3/20/79	1	40	0.0	0.0	0.0	26.76	26.76
3	3/20/79	6	36	0.0	0.0	0.0	26.76	26.76
3	3/20/79	6	52	0.003	0.0003	0.015	26.77	26.77
3	3/20/79	11	0	0.003	0.0003	0.015	26.83	26.83
3	3/20/79	12	20	0.0	0.0	0.0	26.84	26.84
3	3/22/79	23	0	0.0	0.0	0.0	0.0	26.84
3	3/22/79	23	16	0.006	0.0005	0.031	0.00	26.84
3	3/22/79	23	31	0.009	0.0008	0.046	0.01	26.85
3	3/22/79	23	37	0.012	0.0010	0.061	0.02	26.86
3	3/22/79	23	41	0.015	0.0013	0.076	0.02	26.86
3	3/22/79	23	45	0.018	0.0015	0.092	0.03	26.87
3	3/22/79	23	47	0.021	0.0018	0.107	0.03	26.87
3	3/22/79	23	57	0.024	0.0020	0.122	0.05	26.89
3	3/23/79	0	11	0.021	0.0018	0.107	0.08	26.92
3	3/23/79	0	42	0.018	0.0015	0.092	0.13	26.97
3	3/23/79	1	40	0.015	0.0013	0.076	0.21	27.05
3	3/23/79	3	7	0.012	0.0010	0.061	0.31	27.15
3	3/23/79	7	0	0.012	0.0010	0.061	0.55	27.39
3	3/23/79	7	11	0.015	0.0013	0.076	0.56	27.40
3	3/23/79	7	20	0.018	0.0015	0.092	0.57	27.41
3	3/23/79	7	40	0.021	0.0018	0.107	0.61	27.45
3	3/23/79	7	58	0.024	0.0020	0.122	0.64	27.48
3	3/23/79	8	46	0.027	0.0023	0.138	0.75	27.58
3	3/23/79	9	5	0.024	0.0020	0.122	0.79	27.63
3	3/23/79	9	25	0.021	0.0018	0.107	0.82	27.66
3	3/23/79	10	0	0.018	0.0015	0.092	0.88	27.72
3	3/23/79	11	6	0.018	0.0015	0.092	0.98	27.82
3	3/23/79	12	4	0.015	0.0013	0.076	1.07	27.90
3	3/23/79	12	43	0.015	0.0013	0.076	1.11	27.95
3	3/23/79	13	39	0.018	0.0015	0.092	1.19	28.03
3	3/23/79	14	38	0.021	0.0018	0.107	1.29	28.13
3	3/23/79	15	0	0.024	0.0020	0.122	1.33	28.17
3	3/23/79	15	24	0.021	0.0018	0.107	1.38	28.22
3	3/23/79	15	46	0.018	0.0015	0.092	1.42	28.25
3	3/23/79	16	13	0.015	0.0013	0.076	1.45	28.29
3	3/23/79	16	41	0.012	0.0010	0.061	1.49	28.32
3	3/23/79	16	55	0.012	0.0010	0.061	1.50	28.34
3	3/23/79	17	1	0.015	0.0013	0.076	1.51	28.35
3	3/23/79	17	3	0.018	0.0015	0.092	1.51	28.35
3	3/23/79	17	4	0.021	0.0018	0.107	1.51	28.35
3	3/23/79	17	6	0.024	0.0020	0.122	1.52	28.35
3	3/23/79	17	8	0.027	0.0023	0.138	1.52	28.36
3	3/23/79	17	11	0.030	0.0025	0.153	1.53	28.36
3	3/23/79	17	12	0.034	0.0031	0.185	1.53	28.37
3	3/23/79	17	17	0.034	0.0031	0.185	1.55	28.38
3	3/23/79	17	24	0.037	0.0036	0.218	1.57	28.41
3	3/23/79	17	40	0.037	0.0036	0.218	1.63	28.46
3	3/23/79	17	57	0.034	0.0031	0.185	1.68	28.52
3	3/23/79	18	2	0.030	0.0025	0.153	1.70	28.54
3	3/23/79	18	12	0.027	0.0023	0.138	1.72	28.56
3	3/23/79	18	24	0.024	0.0020	0.122	1.75	28.59
3	3/23/79	18	56	0.021	0.0018	0.107	1.81	28.65
3	3/23/79	19	6	0.018	0.0015	0.092	1.83	28.66
3	3/23/79	19	11	0.015	0.0013	0.076	1.83	28.67
3	3/23/79	19	13	0.012	0.0010	0.061	1.84	28.67
3	3/23/79	19	17	0.009	0.0008	0.046	1.84	28.68
3	3/23/79	19	20	0.006	0.0005	0.031	1.84	28.68
3	3/23/79	19	22	0.003	0.0003	0.015	1.84	28.68
3	3/23/79	19	24	0.0	0.0	0.0	1.84	28.68
3	3/28/79	13	0	0.0	0.0	0.0	0.0	28.68
3	3/28/79	14	40	0.009	0.0008	0.046	0.04	28.72
3	3/28/79	15	18	0.012	0.0010	0.061	0.07	28.75
3	3/28/79	16	0	0.012	0.0010	0.061	0.12	28.79
3	3/28/79	18	12	0.009	0.0008	0.046	0.23	28.91
3	3/28/79	18	56	0.006	0.0005	0.031	0.26	28.94
3	3/28/79	19	27	0.003	0.0003	0.015	0.27	28.95
3	3/28/79	20	0	0.0	0.0	0.0	0.28	28.96
3	3/29/79	6	1	0.0	0.0	0.0	0.0	28.96
3	3/29/79	6	2	0.006	0.0005	0.031	0.00	28.96
3	3/29/79	6	3	0.009	0.0008	0.046	0.00	28.96

TABLE D1- 3. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	3/29/79	6	7	0.012	0.0010	0.061	0.00	28.96
3	3/29/79	6	11	0.015	0.0013	0.076	0.01	28.97
3	3/29/79	6	21	0.018	0.0015	0.092	0.02	28.98
3	3/29/79	6	26	0.021	0.0018	0.107	0.03	28.99
3	3/29/79	6	28	0.024	0.0020	0.122	0.04	28.99
3	3/29/79	6	29	0.027	0.0023	0.138	0.04	28.99
3	3/29/79	6	31	0.030	0.0025	0.153	0.04	29.00
3	3/29/79	6	33	0.034	0.0031	0.185	0.05	29.00
3	3/29/79	6	34	0.037	0.0036	0.218	0.05	29.01
3	3/29/79	6	36	0.043	0.0047	0.283	0.06	29.02
3	3/29/79	6	38	0.055	0.0068	0.413	0.07	29.03
3	3/29/79	6	40	0.061	0.0079	0.478	0.09	29.04
3	3/29/79	6	42	0.073	0.0111	0.675	0.11	29.06
3	3/29/79	6	44	0.079	0.0127	0.774	0.13	29.09
3	3/29/79	6	46	0.088	0.0152	0.922	0.16	29.11
3	3/29/79	6	47	0.091	0.0160	0.971	0.17	29.13
3	3/29/79	6	49	0.098	0.0181	1.100	0.21	29.16
3	3/29/79	6	50	0.101	0.0192	1.165	0.23	29.18
3	3/29/79	6	51	0.104	0.0202	1.229	0.25	29.20
3	3/29/79	6	56	0.110	0.0224	1.358	0.35	29.31
3	3/29/79	7	1	0.104	0.0202	1.229	0.46	29.42
3	3/29/79	7	3	0.098	0.0181	1.100	0.50	29.46
3	3/29/79	7	5	0.091	0.0160	0.971	0.54	29.49
3	3/29/79	7	7	0.085	0.0144	0.873	0.57	29.52
3	3/29/79	7	9	0.082	0.0136	0.823	0.59	29.55
3	3/29/79	7	11	0.079	0.0127	0.774	0.62	29.58
3	3/29/79	7	12	0.073	0.0111	0.675	0.63	29.59
3	3/29/79	7	20	0.070	0.0103	0.626	0.72	29.68
3	3/29/79	7	24	0.067	0.0095	0.577	0.76	29.72
3	3/29/79	7	31	0.064	0.0087	0.527	0.82	29.78
3	3/29/79	7	33	0.067	0.0095	0.577	0.84	29.80
3	3/29/79	7	34	0.073	0.0111	0.675	0.85	29.81
3	3/29/79	7	41	0.073	0.0111	0.675	0.93	29.89
3	3/29/79	7	44	0.070	0.0103	0.626	0.96	29.92
3	3/29/79	7	46	0.067	0.0095	0.577	0.98	29.94
3	3/29/79	7	49	0.064	0.0087	0.527	1.01	29.97
3	3/29/79	7	51	0.061	0.0079	0.478	1.03	29.99
3	3/29/79	7	57	0.061	0.0079	0.478	1.08	30.03
3	3/29/79	7	59	0.064	0.0087	0.527	1.09	30.05
3	3/29/79	8	1	0.061	0.0079	0.478	1.11	30.07
3	3/29/79	8	2	0.040	0.0041	0.250	1.12	30.07
3	3/29/79	8	3	0.037	0.0036	0.218	1.12	30.08
3	3/29/79	8	4	0.034	0.0031	0.185	1.12	30.08
3	3/29/79	8	13	0.030	0.0025	0.153	1.15	30.11
3	3/29/79	8	27	0.034	0.0031	0.185	1.19	30.14
3	3/29/79	8	45	0.037	0.0036	0.218	1.25	30.21
3	3/29/79	8	53	0.040	0.0041	0.250	1.28	30.24
3	3/29/79	9	13	0.037	0.0036	0.218	1.36	30.31
3	3/29/79	9	31	0.034	0.0031	0.185	1.42	30.38
3	3/29/79	9	49	0.030	0.0025	0.153	1.47	30.43
3	3/29/79	10	5	0.027	0.0023	0.138	1.51	30.46
3	3/29/79	11	9	0.024	0.0020	0.122	1.65	30.60
3	3/29/79	12	0	0.024	0.0020	0.122	1.75	30.71
3	3/29/79	12	18	0.027	0.0023	0.138	1.79	30.75
3	3/29/79	12	27	0.030	0.0025	0.153	1.81	30.77
3	3/29/79	12	34	0.034	0.0031	0.185	1.83	30.79
3	3/29/79	12	39	0.037	0.0036	0.218	1.85	30.80
3	3/29/79	12	44	0.040	0.0041	0.250	1.87	30.82
3	3/29/79	12	48	0.043	0.0047	0.283	1.89	30.84
3	3/29/79	12	53	0.046	0.0052	0.315	1.91	30.87
3	3/29/79	13	0	0.049	0.0057	0.348	1.95	30.91
3	3/29/79	13	12	0.052	0.0063	0.380	2.02	30.98
3	3/29/79	13	25	0.049	0.0057	0.348	2.10	31.06
3	3/29/79	13	40	0.046	0.0052	0.315	2.18	31.14
3	3/29/79	13	48	0.049	0.0057	0.348	2.23	31.18
3	3/29/79	14	7	0.049	0.0057	0.348	2.34	31.29
3	3/29/79	14	25	0.046	0.0052	0.315	2.44	31.39
3	3/29/79	14	38	0.043	0.0047	0.283	2.50	31.46
3	3/29/79	14	50	0.040	0.0041	0.250	2.56	31.51
3	3/29/79	15	6	0.037	0.0036	0.218	2.62	31.57
3	3/29/79	15	33	0.034	0.0031	0.185	2.71	31.67
3	3/29/79	16	4	0.030	0.0025	0.153	2.80	31.75
3	3/29/79	16	58	0.027	0.0023	0.138	2.93	31.88
3	3/29/79	17	38	0.027	0.0023	0.138	3.02	31.98
3	3/29/79	17	48	0.030	0.0025	0.153	3.04	32.00
3	3/29/79	18	15	0.034	0.0031	0.185	3.12	32.08
3	3/29/79	18	24	0.037	0.0036	0.218	3.15	32.11
3	3/29/79	18	44	0.037	0.0036	0.218	3.22	32.18
3	3/29/79	19	7	0.034	0.0031	0.185	3.30	32.26
3	3/29/79	19	41	0.030	0.0025	0.153	3.40	32.35
3	3/29/79	19	45	0.034	0.0031	0.185	3.41	32.36
3	3/29/79	19	47	0.037	0.0036	0.218	3.41	32.37
3	3/29/79	19	49	0.040	0.0041	0.250	3.42	32.38
3	3/29/79	19	52	0.043	0.0047	0.283	3.44	32.39
3	3/29/79	19	56	0.046	0.0052	0.315	3.46	32.41
3	3/29/79	20	27	0.046	0.0052	0.315	3.62	32.57
3	3/29/79	20	44	0.043	0.0047	0.283	3.70	32.66
3	3/29/79	20	52	0.043	0.0047	0.283	3.74	32.70
3	3/29/79	21	4	0.046	0.0052	0.315	3.80	32.76
3	3/29/79	21	28	0.043	0.0047	0.283	3.92	32.88
3	3/29/79	22	2	0.040	0.0041	0.250	4.07	33.03
3	3/29/79	22	28	0.043	0.0047	0.283	4.19	33.14
3	3/30/79	0	10	0.043	0.0047	0.283	4.67	33.62
3	3/30/79	1	2	0.046	0.0052	0.315	4.93	33.88
3	3/30/79	1	55	0.049	0.0057	0.348	5.22	34.18
3	3/30/79	2	49	0.052	0.0063	0.380	5.55	34.50
3	3/30/79	4	18	0.055	0.0068	0.413	6.14	35.09
3	3/30/79	4	23	0.058	0.0073	0.445	6.17	35.13
3	3/30/79	4	26	0.061	0.0079	0.478	6.20	35.15
3	3/30/79	4	42	0.058	0.0073	0.445	6.32	35.27
3	3/30/79	5	3	0.055	0.0068	0.413	6.47	35.42
3	3/30/79	5	23	0.052	0.0063	0.380	6.60	35.56
3	3/30/79	5	50	0.049	0.0057	0.348	6.76	35.72
3	3/30/79	6	26	0.046	0.0052	0.315	6.96	35.92

TABLE D1- 3. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	3/30/79	6	44	0.043	0.0047	0.283	7.05	36.01
3	3/30/79	7	5	0.040	0.0041	0.250	7.15	36.10
3	3/30/79	7	22	0.037	0.0036	0.218	7.21	36.17
3	3/30/79	7	27	0.040	0.0041	0.250	7.23	36.19
3	3/30/79	7	32	0.043	0.0047	0.283	7.25	36.21
3	3/30/79	7	40	0.046	0.0052	0.315	7.29	36.25
3	3/30/79	7	52	0.043	0.0047	0.283	7.35	36.31
3	3/30/79	8	7	0.040	0.0041	0.250	7.42	36.38
3	3/30/79	8	21	0.037	0.0036	0.218	7.48	36.43
3	3/30/79	8	54	0.034	0.0031	0.185	7.59	36.54
3	3/30/79	9	14	0.030	0.0025	0.153	7.64	36.60
3	3/30/79	9	56	0.027	0.0023	0.138	7.75	36.70
3	3/30/79	10	44	0.024	0.0020	0.122	7.85	36.80
3	3/33/79	12	2	0.021	0.0018	0.107	8.00	36.95
3	3/30/79	14	0	0.018	0.0015	0.092	8.19	37.15
3	3/30/79	16	43	0.015	0.0013	0.076	8.42	37.38
3	3/30/79	20	20	0.012	0.0010	0.061	8.67	37.63
3	3/31/79	2	0	0.009	0.0008	0.046	8.97	37.93
3	3/31/79	9	4	0.006	0.0005	0.031	9.25	38.20
3	3/31/79	10	35	0.003	0.0003	0.015	9.28	38.24
3	3/31/79	12	0	0.0	0.0	0.0	9.29	38.25
3	4/ 3/79	21	16	0.0	0.0	0.0	0.0	38.25
3	4/ 3/79	21	21	0.006	0.0005	0.031	0.00	38.25
3	4/ 3/79	21	25	0.009	0.0008	0.046	0.00	38.25
3	4/ 3/79	21	29	0.012	0.0010	0.061	0.01	38.25
3	4/ 3/79	21	33	0.018	0.0015	0.092	0.01	38.26
3	4/ 3/79	21	35	0.021	0.0018	0.107	0.02	38.26
3	4/ 3/79	21	40	0.024	0.0020	0.122	0.03	38.27
3	4/ 3/79	21	44	0.027	0.0023	0.138	0.03	38.28
3	4/ 3/79	21	48	0.030	0.0025	0.153	0.04	38.29
3	4/ 3/79	21	54	0.034	0.0031	0.185	0.06	38.31
3	4/ 3/79	21	59	0.037	0.0036	0.218	0.08	38.32
3	4/ 3/79	22	57	0.037	0.0036	0.218	0.29	38.53
3	4/ 3/79	23	17	0.034	0.0031	0.185	0.36	38.60
3	4/ 3/79	23	26	0.030	0.0025	0.153	0.38	38.63
3	4/ 3/79	23	38	0.027	0.0023	0.138	0.41	38.66
3	4/ 3/79	23	43	0.024	0.0020	0.122	0.42	38.67
3	4/ 3/79	23	49	0.021	0.0018	0.107	0.43	38.68
3	4/ 4/79	0	2	0.018	0.0015	0.092	0.45	38.70
3	4/ 4/79	0	19	0.015	0.0013	0.076	0.48	38.72
3	4/ 4/79	0	24	0.012	0.0010	0.061	0.48	38.73
3	4/ 4/79	0	30	0.009	0.0008	0.046	0.49	38.74
3	4/ 4/79	0	36	0.006	0.0005	0.031	0.49	38.74
3	4/ 4/79	0	43	0.003	0.0003	0.015	0.50	38.74
3	4/ 4/79	1	0	0.0	0.0	0.0	0.50	38.74
3	4/ 4/79	12	10	0.0	0.0	0.0	0.50	38.74
3	4/ 4/79	12	12	0.027	0.0023	0.138	0.50	38.75
3	4/ 4/79	12	16	0.040	0.0041	0.250	0.51	38.76
3	4/ 4/79	12	17	0.043	0.0047	0.283	0.52	38.76
3	4/ 4/79	12	23	0.043	0.0047	0.283	0.55	38.79
3	4/ 4/79	12	35	0.040	0.0041	0.250	0.60	38.85
3	4/ 4/79	12	56	0.037	0.0036	0.218	0.68	38.93
3	4/ 4/79	13	12	0.037	0.0036	0.218	0.74	38.99
3	4/ 4/79	13	18	0.030	0.0025	0.153	0.76	39.00
3	4/ 4/79	13	22	0.027	0.0023	0.138	0.77	39.01
3	4/ 4/79	13	32	0.024	0.0020	0.122	0.79	39.04
3	4/ 4/79	13	37	0.021	0.0018	0.107	0.80	39.04
3	4/ 4/79	13	46	0.018	0.0015	0.092	0.81	39.06
3	4/ 4/79	13	59	0.015	0.0013	0.076	0.83	39.08
3	4/ 4/79	14	29	0.012	0.0010	0.061	0.87	39.11
3	4/ 4/79	15	43	0.012	0.0010	0.061	0.94	39.19
3	4/ 4/79	16	2	0.015	0.0013	0.076	0.96	39.21
3	4/ 4/79	16	42	0.015	0.0013	0.076	1.01	39.26
3	4/ 4/79	18	20	0.012	0.0010	0.061	1.13	39.37
3	4/ 4/79	20	40	0.0	0.0	0.0	1.20	39.44
3	4/19/79	11	30	0.0	0.0	0.0	0.0	39.44
3	4/19/79	11	33	0.003	0.0003	0.015	0.00	39.44
3	4/19/79	11	38	0.006	0.0005	0.031	0.00	39.45
3	4/19/79	12	0	0.006	0.0005	0.031	0.01	39.46
3	4/19/79	12	13	0.003	0.0003	0.015	0.02	39.46
3	4/19/79	12	37	0.003	0.0003	0.015	0.02	39.47
3	4/19/79	12	48	0.006	0.0005	0.031	0.03	39.47
3	4/19/79	13	0	0.009	0.0008	0.046	0.04	39.48
3	4/19/79	13	7	0.012	0.0010	0.061	0.04	39.49
3	4/19/79	13	13	0.015	0.0013	0.076	0.05	39.49
3	4/19/79	13	24	0.018	0.0015	0.092	0.07	39.51
3	4/19/79	13	32	0.021	0.0018	0.107	0.08	39.52
3	4/19/79	13	38	0.024	0.0020	0.122	0.09	39.53
3	4/19/79	13	46	0.027	0.0023	0.138	0.11	39.55
3	4/19/79	13	56	0.030	0.0025	0.153	0.13	39.58
3	4/19/79	14	3	0.034	0.0031	0.185	0.15	39.60
3	4/19/79	14	14	0.030	0.0025	0.153	0.18	39.63
3	4/19/79	14	20	0.027	0.0023	0.138	0.20	39.64
3	4/19/79	14	28	0.024	0.0020	0.122	0.21	39.66
3	4/19/79	14	33	0.021	0.0018	0.107	0.22	39.67
3	4/19/79	14	44	0.018	0.0015	0.092	0.24	39.69
3	4/19/79	14	55	0.015	0.0013	0.076	0.26	39.70
3	4/19/79	15	10	0.012	0.0010	0.061	0.27	39.72
3	4/19/79	15	32	0.009	0.0008	0.046	0.29	39.74
3	4/19/79	16	1	0.006	0.0005	0.031	0.31	39.76
3	4/19/79	16	24	0.003	0.0003	0.015	0.32	39.77
3	4/19/79	16	48	0.0	0.0	0.0	0.32	39.77
3	4/20/79	4	38	0.0	0.0	0.0	0.0	39.77
3	4/20/79	4	40	0.006	0.0005	0.031	0.00	39.77
3	4/20/79	4	42	0.009	0.0008	0.046	0.00	39.77
3	4/20/79	4	45	0.012	0.0010	0.061	0.00	39.77
3	4/20/79	4	52	0.015	0.0013	0.076	0.01	39.78
3	4/20/79	5	13	0.015	0.0013	0.076	0.04	39.81

TABLE D1- 3. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	4/20/79	5	38	0.012	0.0010	0.061	0.07	39.84
3	4/20/79	6	9	0.009	0.0008	0.046	0.10	39.86
3	4/20/79	9	0	0.006	0.0005	0.031	0.20	39.97
3	4/20/79	9	3	0.009	0.0008	0.046	0.21	39.98
3	4/20/79	9	8	0.012	0.0010	0.061	0.21	39.98
3	4/20/79	9	14	0.015	0.0013	0.076	0.22	39.99
3	4/20/79	9	20	0.018	0.0015	0.092	0.23	39.99
3	4/20/79	9	29	0.021	0.0018	0.107	0.24	40.01
3	4/20/79	9	51	0.024	0.0020	0.122	0.28	40.05
3	4/20/79	10	10	0.027	0.0023	0.138	0.32	40.09
3	4/20/79	10	29	0.027	0.0023	0.138	0.37	40.14
3	4/20/79	10	42	0.024	0.0020	0.122	0.40	40.16
3	4/20/79	10	56	0.021	0.0018	0.107	0.42	40.19
3	4/20/79	11	6	0.021	0.0018	0.107	0.44	40.21
3	4/20/79	11	19	0.024	0.0020	0.122	0.47	40.23
3	4/20/79	11	27	0.027	0.0023	0.138	0.48	40.25
3	4/20/79	11	40	0.030	0.0025	0.153	0.51	40.28
3	4/20/79	11	53	0.027	0.0023	0.138	0.55	40.31
3	4/20/79	12	13	0.024	0.0020	0.122	0.59	40.36
3	4/20/79	12	24	0.024	0.0020	0.122	0.61	40.38
3	4/20/79	12	39	0.027	0.0023	0.138	0.64	40.41
3	4/20/79	12	43	0.030	0.0025	0.153	0.65	40.42
3	4/20/79	12	49	0.034	0.0031	0.185	0.67	40.44
3	4/20/79	12	53	0.037	0.0036	0.218	0.68	40.45
3	4/20/79	12	57	0.040	0.0041	0.250	0.70	40.47
3	4/20/79	13	0	0.043	0.0047	0.283	0.71	40.48
3	4/20/79	13	8	0.046	0.0052	0.315	0.75	40.52
3	4/20/79	13	28	0.049	0.0057	0.348	0.86	40.63
3	4/20/79	13	44	0.046	0.0052	0.315	0.95	40.72
3	4/20/79	13	52	0.043	0.0047	0.283	0.99	40.76
3	4/20/79	13	57	0.040	0.0041	0.250	1.01	40.78
3	4/20/79	14	3	0.037	0.0036	0.218	1.04	40.81
3	4/20/79	14	8	0.034	0.0031	0.185	1.05	40.82
3	4/20/79	14	18	0.030	0.0025	0.153	1.08	40.85
3	4/20/79	14	28	0.027	0.0023	0.138	1.11	40.88
3	4/20/79	14	40	0.024	0.0020	0.122	1.13	40.90
3	4/20/79	14	50	0.021	0.0018	0.107	1.15	40.92
3	4/20/79	15	7	0.018	0.0015	0.092	1.18	40.95
3	4/20/79	15	31	0.015	0.0013	0.076	1.21	40.98
3	4/20/79	16	7	0.012	0.0010	0.061	1.26	41.02
3	4/20/79	16	56	0.009	0.0008	0.046	1.30	41.07
3	4/21/79	3	0	0.0	0.0	0.0	1.53	41.30
3	4/25/79	10	48	0.0	0.0	0.0	0.0	41.30
3	4/25/79	10	49	0.003	0.0003	0.015	0.00	41.30
3	4/25/79	10	51	0.006	0.0005	0.031	0.00	41.30
3	4/25/79	10	52	0.009	0.0008	0.046	0.00	41.30
3	4/25/79	10	56	0.012	0.0010	0.061	0.01	41.30
3	4/25/79	11	12	0.015	0.0013	0.076	0.02	41.32
3	4/25/79	11	20	0.015	0.0013	0.076	0.03	41.33
3	4/25/79	11	46	0.012	0.0010	0.061	0.06	41.36
3	4/25/79	12	21	0.009	0.0008	0.046	0.09	41.39
3	4/25/79	12	43	0.006	0.0005	0.031	0.11	41.41
3	4/25/79	13	11	0.003	0.0003	0.015	0.12	41.42
3	4/25/79	13	35	0.0	0.0	0.0	0.12	41.42
3	4/25/79	15	23	0.0	0.0	0.0	0.12	41.42
3	4/25/79	15	27	0.003	0.0003	0.015	0.12	41.42
3	4/25/79	15	31	0.006	0.0005	0.031	0.12	41.42
3	4/25/79	15	45	0.009	0.0008	0.046	0.13	41.43
3	4/25/79	16	29	0.009	0.0008	0.046	0.17	41.47
3	4/25/79	16	55	0.012	0.0010	0.061	0.19	41.49
3	4/25/79	17	48	0.012	0.0010	0.061	0.24	41.54
3	4/25/79	18	20	0.009	0.0008	0.046	0.27	41.57
3	4/25/79	19	50	0.006	0.0005	0.031	0.33	41.63
3	4/25/79	20	32	0.003	0.0003	0.015	0.35	41.64
3	4/25/79	21	0	0.0	0.0	0.0	0.35	41.65
3	5/ 3/79	11	16	0.0	0.0	0.0	0.0	41.65
3	5/ 3/79	11	19	0.003	0.0003	0.015	0.00	41.65
3	5/ 3/79	11	27	0.006	0.0005	0.031	0.00	41.65
3	5/ 3/79	11	43	0.009	0.0008	0.046	0.01	41.66
3	5/ 3/79	12	16	0.012	0.0010	0.061	0.04	41.69
3	5/ 3/79	13	25	0.015	0.0013	0.076	0.12	41.77
3	5/ 3/79	14	19	0.018	0.0015	0.092	0.20	41.85
3	5/ 3/79	15	34	0.018	0.0015	0.092	0.31	41.96
3	5/ 3/79	16	3	0.015	0.0013	0.076	0.35	42.00
3	5/ 3/79	16	24	0.012	0.0010	0.061	0.38	42.03
3	5/ 3/79	17	17	0.009	0.0008	0.046	0.42	42.07
3	5/ 3/79	18	40	0.009	0.0008	0.046	0.49	42.14
3	5/ 3/79	19	26	0.006	0.0005	0.031	0.52	42.17
3	5/ 3/79	20	32	0.003	0.0003	0.015	0.54	42.19
3	5/ 3/79	21	0	0.0	0.0	0.0	0.55	42.19
3	6/12/79	18	40	0.0	0.0	0.0	0.0	42.19
3	6/12/79	18	42	0.006	0.0005	0.031	0.00	42.19
3	6/12/79	18	44	0.015	0.0013	0.076	0.00	42.20
3	6/12/79	18	46	0.021	0.0018	0.107	0.01	42.20
3	6/12/79	18	48	0.030	0.0025	0.153	0.01	42.20
3	6/12/79	18	51	0.037	0.0036	0.218	0.02	42.21
3	6/12/79	18	54	0.030	0.0025	0.153	0.03	42.22
3	6/12/79	18	56	0.027	0.0023	0.138	0.03	42.23
3	6/12/79	18	58	0.024	0.0020	0.122	0.04	42.23
3	6/12/79	19	0	0.021	0.0018	0.107	0.04	42.24
3	6/12/79	19	4	0.018	0.0015	0.092	0.05	42.24
3	6/12/79	19	8	0.015	0.0013	0.076	0.05	42.25
3	6/12/79	19	11	0.012	0.0010	0.061	0.06	42.25
3	6/12/79	19	14	0.009	0.0008	0.046	0.06	42.25
3	6/12/79	19	18	0.006	0.0005	0.031	0.06	42.26
3	6/12/79	19	20	0.003	0.0003	0.015	0.06	42.26
3	6/12/79	19	24	0.0	0.0	0.0	0.06	42.26

TABLE D1- 3. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	6/27/79	0	32	0.0	0.0	0.0	0.0	42.26
3	6/27/79	0	33	0.012	0.0010	0.061	0.00	42.26
3	6/27/79	0	35	0.027	0.0023	0.138	0.00	42.26
3	6/27/79	0	36	0.037	0.0036	0.218	0.01	42.26
3	6/27/79	0	37	0.049	0.0057	0.348	0.01	42.27
3	6/27/79	0	38	0.055	0.0068	0.413	0.02	42.28
3	6/27/79	0	43	0.055	0.0068	0.413	0.05	42.31
3	6/27/79	0	46	0.049	0.0057	0.348	0.07	42.33
3	6/27/79	0	48	0.043	0.0047	0.283	0.08	42.34
3	6/27/79	0	49	0.037	0.0036	0.218	0.09	42.34
3	6/27/79	0	50	0.030	0.0025	0.153	0.09	42.35
3	6/27/79	0	54	0.024	0.0020	0.122	0.10	42.36
3	6/27/79	0	56	0.021	0.0018	0.107	0.10	42.36
3	6/27/79	1	3	0.018	0.0015	0.092	0.11	42.37
3	6/27/79	1	6	0.015	0.0013	0.076	0.12	42.38
3	6/27/79	1	14	0.012	0.0010	0.061	0.13	42.38
3	6/27/79	1	20	0.009	0.0008	0.046	0.13	42.39
3	6/27/79	1	24	0.006	0.0005	0.031	0.13	42.39
3	6/27/79	1	30	0.003	0.0003	0.015	0.14	42.39
3	6/27/79	1	38	0.0	0.0	0.0	0.14	42.40
3	7/ 3/79	9	20	0.0	0.0	0.0	0.0	42.40
3	7/ 3/79	9	26	0.012	0.0010	0.061	0.00	42.40
3	7/ 3/79	9	30	0.015	0.0013	0.076	0.01	42.40
3	7/ 3/79	9	33	0.018	0.0015	0.092	0.01	42.41
3	7/ 3/79	9	34	0.024	0.0020	0.122	0.01	42.41
3	7/ 3/79	9	37	0.030	0.0025	0.153	0.02	42.42
3	7/ 3/79	9	38	0.037	0.0036	0.218	0.02	42.42
3	7/ 3/79	9	39	0.049	0.0057	0.348	0.03	42.42
3	7/ 3/79	9	40	0.058	0.0073	0.445	0.03	42.43
3	7/ 3/79	9	41	0.070	0.0103	0.626	0.04	42.44
3	7/ 3/79	9	42	0.119	0.0256	1.551	0.06	42.46
3	7/ 3/79	9	43	0.213	0.0767	4.659	0.11	42.51
3	7/ 3/79	9	44	0.280	0.1330	8.073	0.22	42.62
3	7/ 3/79	9	45	0.314	0.1676	10.177	0.37	42.77
3	7/ 3/79	9	46	0.332	0.1880	11.415	0.55	42.95
3	7/ 3/79	9	47	0.347	0.2061	12.515	0.75	43.15
3	7/ 3/79	9	48	0.372	0.2367	14.368	0.98	43.37
3	7/ 3/79	9	49	0.408	0.2891	17.552	1.24	43.64
3	7/ 3/79	9	50	0.451	0.3579	21.729	1.57	43.96
3	7/ 3/79	9	51	0.500	0.4457	27.058	1.98	44.37
3	7/ 3/79	9	52	0.549	0.5437	33.006	2.48	44.87
3	7/ 3/79	9	53	0.573	0.6003	36.444	3.05	45.45
3	7/ 3/79	9	54	0.604	0.6734	40.879	3.70	46.09
3	7/ 3/79	9	55	0.594	0.6513	39.539	4.37	46.76
3	7/ 3/79	9	56	0.579	0.6145	37.304	5.01	47.41
3	7/ 3/79	9	57	0.567	0.5862	35.585	5.62	48.01
3	7/ 3/79	9	58	0.555	0.5578	33.866	6.20	48.59
3	7/ 3/79	9	59	0.543	0.5312	32.250	6.75	49.14
3	7/ 3/79	10	0	0.530	0.5063	30.737	7.27	49.67
3	7/ 3/79	10	1	0.539	0.5250	31.871	7.79	50.19
3	7/ 3/79	10	2	0.518	0.4814	29.224	8.30	50.70
3	7/ 3/79	10	3	0.500	0.4457	27.058	8.77	51.17
3	7/ 3/79	10	4	0.485	0.4165	25.287	9.21	51.60
3	7/ 3/79	10	5	0.463	0.3789	23.001	9.61	52.01
3	7/ 3/79	10	6	0.415	0.2985	18.119	9.95	52.35
3	7/ 3/79	10	7	0.405	0.2844	17.268	10.25	52.64
3	7/ 3/79	10	8	0.393	0.2662	16.161	10.53	52.92
3	7/ 3/79	10	9	0.375	0.2409	14.624	10.78	53.18
3	7/ 3/79	10	10	0.363	0.2246	13.632	11.02	53.41
3	7/ 3/79	10	11	0.347	0.2061	12.515	11.24	53.63
3	7/ 3/79	10	12	0.332	0.1880	11.415	11.44	53.83
3	7/ 3/79	10	13	0.320	0.1744	10.589	11.62	54.01
3	7/ 3/79	10	14	0.308	0.1608	9.764	11.79	54.18
3	7/ 3/79	10	15	0.296	0.1483	9.001	11.94	54.34
3	7/ 3/79	10	16	0.287	0.1391	8.444	12.09	54.49
3	7/ 3/79	10	17	0.271	0.1242	7.538	12.22	54.62
3	7/ 3/79	10	18	0.262	0.1161	7.048	12.34	54.74
3	7/ 3/79	10	19	0.250	0.1053	6.395	12.46	54.85
3	7/ 3/79	10	20	0.241	0.0976	5.927	12.56	54.96
3	7/ 3/79	10	21	0.226	0.0860	5.223	12.65	55.05
3	7/ 3/79	10	22	0.216	0.0791	4.800	12.74	55.13
3	7/ 3/79	10	23	0.207	0.0728	4.418	12.81	55.21
3	7/ 3/79	10	24	0.201	0.0688	4.177	12.88	55.28
3	7/ 3/79	10	25	0.192	0.0629	3.816	12.95	55.35
3	7/ 3/79	10	26	0.180	0.0552	3.354	13.01	55.41
3	7/ 3/79	10	27	0.174	0.0519	3.151	13.06	55.46
3	7/ 3/79	10	28	0.165	0.0469	2.847	13.11	55.51
3	7/ 3/79	10	29	0.152	0.0402	2.441	13.16	55.55
3	7/ 3/79	10	30	0.146	0.0375	2.276	13.20	55.59
3	7/ 3/79	10	31	0.140	0.0348	2.111	13.23	55.63
3	7/ 3/79	10	32	0.134	0.0321	1.946	13.27	55.66
3	7/ 3/79	10	33	0.125	0.0280	1.698	13.30	55.69
3	7/ 3/79	10	34	0.119	0.0256	1.551	13.33	55.72
3	7/ 3/79	10	35	0.113	0.0234	1.423	13.35	55.75
3	7/ 3/79	10	36	0.107	0.0213	1.294	13.37	55.77
3	7/ 3/79	10	37	0.104	0.0202	1.229	13.39	55.79
3	7/ 3/79	10	38	0.094	0.0171	1.036	13.41	55.81
3	7/ 3/79	10	39	0.091	0.0160	0.971	13.43	55.83
3	7/ 3/79	10	40	0.085	0.0144	0.873	13.45	55.84
3	7/ 3/79	10	41	0.079	0.0127	0.774	13.46	55.85
3	7/ 3/79	10	42	0.073	0.0111	0.675	13.47	55.87
3	7/ 3/79	10	43	0.067	0.0095	0.577	13.48	55.88
3	7/ 3/79	10	44	0.064	0.0087	0.527	13.49	55.89
3	7/ 3/79	10	46	0.061	0.0079	0.478	13.51	55.90
3	7/ 3/79	10	47	0.055	0.0068	0.413	13.52	55.91
3	7/ 3/79	10	49	0.049	0.0057	0.348	13.53	55.92
3	7/ 3/79	10	52	0.043	0.0047	0.283	13.54	55.94
3	7/ 3/79	10	54	0.037	0.0036	0.218	13.55	55.95
3	7/ 3/79	10	57	0.030	0.0025	0.153	13.56	55.96
3	7/ 3/79	11	0	0.027	0.0023	0.138	13.57	55.96
3	7/ 3/79	11	4	0.024	0.0020	0.122	13.58	55.97

TABLE D1- 3. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	7/ 3/79	11	7	0.021	0.0018	0.107	13.58	55.98
3	7/ 3/79	11	10	0.018	0.0015	0.092	13.59	55.98
3	7/ 3/79	11	14	0.015	0.0013	0.076	13.59	55.99
3	7/ 3/79	11	16	0.012	0.0010	0.061	13.60	55.99
3	7/ 3/79	11	20	0.009	0.0008	0.046	13.60	55.99
3	7/ 3/79	11	23	0.006	0.0005	0.031	13.60	56.00
3	7/ 3/79	11	26	0.003	0.0003	0.015	13.60	56.00
3	7/ 3/79	11	30	0.0	0.0	0.0	13.60	56.00
3	7/14/79	1	12	0.0	0.0	0.0	0.0	56.00
3	7/14/79	1	15	0.006	0.0005	0.031	0.00	56.00
3	7/14/79	1	18	0.012	0.0010	0.061	0.00	56.00
3	7/14/79	1	22	0.015	0.0013	0.076	0.01	56.01
3	7/14/79	1	23	0.013	0.0015	0.092	0.01	56.01
3	7/14/79	1	25	0.021	0.0018	0.107	0.01	56.01
3	7/14/79	1	27	0.027	0.0023	0.138	0.02	56.01
3	7/14/79	1	28	0.037	0.0036	0.218	0.02	56.02
3	7/14/79	1	29	0.049	0.0057	0.348	0.02	56.02
3	7/14/79	1	30	0.070	0.0103	0.626	0.03	56.03
3	7/14/79	1	31	0.113	0.0234	1.423	0.05	56.05
3	7/14/79	1	32	0.158	0.0436	2.644	0.08	56.08
3	7/14/79	1	33	0.186	0.0589	3.576	0.14	56.13
3	7/14/79	1	34	0.198	0.0668	4.057	0.20	56.20
3	7/14/79	1	35	0.207	0.0728	4.418	0.27	56.27
3	7/14/79	1	36	0.213	0.0767	4.659	0.34	56.34
3	7/14/79	1	37	0.216	0.0791	4.800	0.42	56.42
3	7/14/79	1	38	0.223	0.0837	5.082	0.51	56.50
3	7/14/79	1	39	0.229	0.0883	5.363	0.59	56.59
3	7/14/79	1	40	0.238	0.0953	5.786	0.69	56.68
3	7/14/79	1	41	0.253	0.1080	6.558	0.79	56.79
3	7/14/79	1	42	0.230	0.1330	8.073	0.91	56.91
3	7/14/79	1	43	0.311	0.1642	9.971	1.06	57.06
3	7/14/79	1	44	0.335	0.1914	11.621	1.24	57.24
3	7/14/79	1	45	0.351	0.2098	12.738	1.44	57.44
3	7/14/79	1	46	0.363	0.2246	13.632	1.66	57.66
3	7/14/79	1	47	0.372	0.2367	14.368	1.90	57.90
3	7/14/79	1	48	0.381	0.2493	15.136	2.14	58.14
3	7/14/79	1	49	0.390	0.2620	15.905	2.40	58.40
3	7/14/79	1	50	0.396	0.2704	16.417	2.67	58.67
3	7/14/79	1	51	0.399	0.2751	16.701	2.95	58.94
3	7/14/79	1	53	0.402	0.2798	16.984	3.51	59.51
3	7/14/79	1	55	0.402	0.2798	16.984	4.07	60.07
3	7/14/79	1	57	0.396	0.2704	16.417	4.63	60.63
3	7/14/79	1	58	0.393	0.2662	16.161	4.90	60.90
3	7/14/79	1	59	0.387	0.2578	15.649	5.17	61.17
3	7/14/79	2	0	0.381	0.2493	15.136	5.42	61.42
3	7/14/79	2	1	0.375	0.2409	14.624	5.67	61.67
3	7/14/79	2	2	0.366	0.2282	13.856	5.91	61.91
3	7/14/79	2	3	0.360	0.2209	13.409	6.14	62.13
3	7/14/79	2	4	0.351	0.2098	12.738	6.35	62.35
3	7/14/79	2	5	0.341	0.1988	12.068	6.56	62.56
3	7/14/79	2	6	0.332	0.1880	11.415	6.76	62.76
3	7/14/79	2	7	0.323	0.1778	10.796	6.94	62.94
3	7/14/79	2	8	0.317	0.1710	10.383	7.12	63.12
3	7/14/79	2	9	0.302	0.1544	9.372	7.28	63.28
3	7/14/79	2	10	0.293	0.1452	8.815	7.44	63.43
3	7/14/79	2	11	0.280	0.1330	8.073	7.58	63.57
3	7/14/79	2	12	0.271	0.1242	7.538	7.71	63.70
3	7/14/79	2	13	0.262	0.1161	7.048	7.83	63.83
3	7/14/79	2	14	0.256	0.1107	6.722	7.94	63.94
3	7/14/79	2	15	0.244	0.1000	6.068	8.05	64.05
3	7/14/79	2	16	0.232	0.0907	5.504	8.15	64.14
3	7/14/79	2	17	0.223	0.0837	5.082	8.23	64.23
3	7/14/79	2	18	0.213	0.0767	4.659	8.31	64.31
3	7/14/79	2	19	0.207	0.0728	4.418	8.39	64.39
3	7/14/79	2	20	0.201	0.0688	4.177	8.46	64.46
3	7/14/79	2	21	0.192	0.0629	3.816	8.53	64.53
3	7/14/79	2	22	0.186	0.0589	3.576	8.59	64.59
3	7/14/79	2	23	0.180	0.0552	3.354	8.65	64.65
3	7/14/79	2	24	0.171	0.0502	3.050	8.70	64.70
3	7/14/79	2	25	0.165	0.0469	2.847	8.75	64.75
3	7/14/79	2	26	0.158	0.0436	2.644	8.80	64.79
3	7/14/79	2	27	0.149	0.0389	2.359	8.84	64.84
3	7/14/79	2	28	0.143	0.0361	2.194	8.88	64.87
3	7/14/79	2	29	0.137	0.0334	2.028	8.91	64.91
3	7/14/79	2	30	0.134	0.0321	1.946	8.94	64.94
3	7/14/79	2	31	0.128	0.0293	1.781	8.97	64.97
3	7/14/79	2	32	0.122	0.0266	1.616	9.00	65.00
3	7/14/79	2	33	0.116	0.0245	1.487	9.03	65.03
3	7/14/79	2	34	0.113	0.0234	1.423	9.05	65.05
3	7/14/79	2	35	0.107	0.0213	1.294	9.08	65.07
3	7/14/79	2	36	0.101	0.0192	1.165	9.10	65.09
3	7/14/79	2	37	0.094	0.0171	1.036	9.11	65.11
3	7/14/79	2	38	0.091	0.0160	0.971	9.13	65.13
3	7/14/79	2	40	0.082	0.0136	0.823	9.16	65.16
3	7/14/79	2	42	0.076	0.0119	0.725	9.19	65.18
3	7/14/79	2	44	0.070	0.0103	0.626	9.21	65.21
3	7/14/79	2	46	0.064	0.0087	0.527	9.23	65.23
3	7/14/79	2	47	0.061	0.0079	0.478	9.24	65.24
3	7/14/79	2	49	0.055	0.0068	0.413	9.25	65.25
3	7/14/79	2	52	0.049	0.0057	0.348	9.27	65.27
3	7/14/79	2	54	0.043	0.0047	0.283	9.28	65.28
3	7/14/79	2	56	0.037	0.0036	0.218	9.29	65.29
3	7/14/79	2	59	0.030	0.0025	0.153	9.30	65.30
3	7/14/79	3	2	0.024	0.0020	0.122	9.31	65.30
3	7/14/79	3	5	0.018	0.0015	0.092	9.31	65.31
3	7/14/79	3	7	0.015	0.0013	0.076	9.31	65.31
3	7/14/79	3	8	0.012	0.0010	0.061	9.32	65.31
3	7/14/79	3	10	0.009	0.0008	0.046	9.32	65.31
3	7/14/79	3	11	0.006	0.0005	0.031	9.32	65.32
3	7/14/79	3	13	0.003	0.0003	0.015	9.32	65.32
3	7/14/79	3	17	0.0	0.0	0.0	9.32	65.32

TABLE D1- 3. CONCLUDED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	8/21/79	19	6	0.0	0.0	0.0	0.0	65.32
3	8/21/79	19	8	0.006	0.0005	0.031	0.00	65.32
3	8/21/79	19	10	0.061	0.0079	0.478	0.01	65.33
3	8/21/79	19	12	0.107	0.0213	1.294	0.04	65.36
3	8/21/79	19	14	0.116	0.0245	1.487	0.08	65.40
3	8/21/79	19	16	0.113	0.0234	1.423	0.13	65.45
3	8/21/79	19	18	0.110	0.0224	1.358	0.18	65.50
3	8/21/79	19	20	0.107	0.0213	1.294	0.22	65.54
3	8/21/79	19	22	0.104	0.0202	1.229	0.27	65.58
3	8/21/79	19	26	0.101	0.0192	1.165	0.35	65.66
3	8/21/79	19	28	0.094	0.0171	1.036	0.38	65.70
3	8/21/79	19	30	0.088	0.0152	0.922	0.42	65.73
3	8/21/79	19	32	0.082	0.0136	0.823	0.44	65.76
3	8/21/79	19	34	0.070	0.0103	0.626	0.47	65.78
3	8/21/79	19	36	0.064	0.0087	0.527	0.49	65.80
3	8/21/79	19	38	0.058	0.0073	0.445	0.50	65.82
3	8/21/79	19	40	0.052	0.0063	0.380	0.52	65.83
3	8/21/79	19	42	0.046	0.0052	0.315	0.53	65.85
3	8/21/79	19	44	0.040	0.0041	0.250	0.54	65.86
3	8/21/79	19	46	0.034	0.0031	0.185	0.55	65.86
3	8/21/79	19	48	0.030	0.0025	0.153	0.55	65.87
3	8/21/79	19	50	0.024	0.0020	0.122	0.56	65.87
3	8/21/79	19	54	0.021	0.0018	0.107	0.56	65.88
3	8/21/79	19	56	0.018	0.0015	0.092	0.57	65.88
3	8/21/79	19	58	0.015	0.0013	0.076	0.57	65.89
3	8/21/79	20	4	0.012	0.0010	0.061	0.58	65.89
3	8/21/79	20	10	0.006	0.0005	0.031	0.58	65.90
3	8/21/79	20	20	0.0	0.0	0.0	0.58	65.90

TABLE DI- 4. FOUR MILE CREEK WATERSHED RUNOFF DATA FOR 1979 SITE 7

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	3/16/79	16	0	0.0	0.0	0.0	0.0	0.0
7	3/16/79	24	0	0.152	0.1784	0.226	0.90	0.90
7	3/17/79	12	0	0.183	0.2407	0.305	4.09	4.09
7	3/17/79	15	0	0.305	0.5465	0.693	5.59	5.59
7	3/18/79	11	44	0.536	1.8066	2.290	36.51	36.51
7	3/18/79	11	46	0.558	1.9199	2.434	36.59	36.59
7	3/18/79	11	48	0.567	1.9709	2.498	36.67	36.67
7	3/18/79	11	50	0.570	1.9878	2.520	36.76	36.76
7	3/18/79	11	56	0.567	1.9709	2.498	37.01	37.01
7	3/18/79	11	58	0.561	1.9369	2.455	37.09	37.09
7	3/18/79	12	0	0.552	1.8859	2.391	37.17	37.17
7	3/18/79	12	2	0.543	1.8378	2.330	37.25	37.25
7	3/18/79	12	6	0.536	1.8066	2.290	37.40	37.40
7	3/18/79	12	10	0.539	1.8222	2.310	37.56	37.56
7	3/18/79	12	11	0.543	1.8378	2.330	37.59	37.59
7	3/18/79	12	12	0.555	1.9029	2.412	37.63	37.63
7	3/18/79	12	14	0.564	1.9539	2.477	37.72	37.72
7	3/18/79	12	15	0.576	2.0218	2.563	37.76	37.76
7	3/18/79	12	16	0.588	2.0898	2.649	37.80	37.80
7	3/18/79	12	17	0.600	2.1577	2.735	37.85	37.85
7	3/18/79	12	18	0.613	2.2271	2.823	37.89	37.89
7	3/18/79	12	19	0.631	2.3376	2.963	37.94	37.94
7	3/18/79	12	20	0.619	2.2639	2.870	37.99	37.99
7	3/18/79	12	24	0.610	2.2087	2.800	38.18	38.18
7	3/18/79	12	27	0.616	2.2455	2.846	38.32	38.32
7	3/18/79	12	28	0.622	2.2823	2.893	38.37	38.37
7	3/18/79	12	29	0.628	2.3191	2.940	38.42	38.42
7	3/18/79	12	30	0.631	2.3376	2.963	38.46	38.46
7	3/18/79	12	31	0.640	2.3928	3.033	38.51	38.51
7	3/18/79	12	33	0.646	2.4296	3.080	38.62	38.62
7	3/18/79	12	35	0.652	2.4664	3.126	38.72	38.72
7	3/18/79	12	40	0.640	2.3928	3.033	38.98	38.98
7	3/18/79	12	45	0.631	2.3376	2.963	39.23	39.23
7	3/18/79	12	51	0.625	2.3007	2.916	39.52	39.52
7	3/18/79	12	53	0.619	2.2639	2.870	39.62	39.62
7	3/18/79	12	59	0.628	2.3191	2.940	39.91	39.91
7	3/18/79	13	6	0.643	2.4112	3.056	40.26	40.26
7	3/18/79	13	27	0.622	2.2823	2.893	41.30	41.30
7	3/18/79	13	33	0.628	2.3191	2.940	41.59	41.59
7	3/18/79	13	43	0.613	2.2087	2.800	42.07	42.07
7	3/18/79	13	53	0.597	2.1408	2.714	42.39	42.39
7	3/18/79	14	8	0.573	2.0048	2.541	43.18	43.18
7	3/18/79	14	20	0.564	1.9539	2.477	43.68	43.68
7	3/18/79	14	26	0.567	1.9709	2.498	43.93	43.93
7	3/18/79	14	35	0.561	1.9369	2.455	44.30	44.30
7	3/18/79	14	49	0.570	1.9878	2.520	44.88	44.88
7	3/18/79	14	58	0.564	1.9539	2.477	45.25	45.25
7	3/18/79	15	9	0.561	1.9369	2.455	45.71	45.71
7	3/18/79	15	14	0.567	1.9709	2.498	45.91	45.91
7	3/18/79	15	25	0.573	2.0048	2.541	46.38	46.38
7	3/18/79	15	30	0.570	1.9878	2.520	46.59	46.59
7	3/18/79	15	46	0.582	2.0558	2.606	47.27	47.27
7	3/18/79	15	50	0.588	2.0898	2.649	47.44	47.44
7	3/18/79	16	0	0.582	2.0558	2.606	47.88	47.88
7	3/18/79	16	10	0.594	2.1238	2.692	48.32	48.32
7	3/18/79	16	21	0.607	2.1917	2.778	48.83	48.83
7	3/18/79	16	28	0.597	2.1408	2.714	49.15	49.15
7	3/18/79	16	35	0.597	2.1408	2.714	49.46	49.46
7	3/18/79	16	54	0.631	2.3376	2.963	50.36	50.36
7	3/18/79	17	0	0.634	2.3560	2.986	50.66	50.66
7	3/18/79	17	14	0.622	2.2823	2.893	51.34	51.34
7	3/18/79	17	20	0.613	2.2271	2.823	51.63	51.63
7	3/18/79	17	30	0.600	2.1577	2.735	52.09	52.09
7	3/18/79	17	43	0.585	2.0728	2.627	52.67	52.67
7	3/18/79	17	50	0.573	2.0048	2.541	52.98	52.98
7	3/18/79	18	4	0.555	1.9029	2.412	53.55	53.55
7	3/18/79	18	16	0.536	1.8066	2.290	54.02	54.02
7	3/18/79	18	29	0.512	1.6820	2.132	54.50	54.50
7	3/18/79	18	46	0.488	1.5574	1.974	55.09	55.09
7	3/18/79	19	16	0.439	1.2856	1.630	55.99	55.99
7	3/18/79	19	26	0.424	1.2006	1.522	56.25	56.25
7	3/18/79	19	36	0.408	1.1157	1.414	56.49	56.49
7	3/18/79	19	50	0.390	1.0137	1.285	56.81	56.81
7	3/18/79	19	59	0.378	0.9458	1.199	56.99	56.99
7	3/18/79	20	14	0.360	0.8450	1.071	57.28	57.28
7	3/18/79	20	30	0.344	0.7629	0.967	57.55	57.55
7	3/18/79	20	54	0.323	0.6468	0.820	57.91	57.91
7	3/18/79	21	14	0.308	0.5632	0.714	58.16	58.16
7	3/18/79	21	42	0.290	0.5040	0.639	58.48	58.48
7	3/18/79	22	20	0.268	0.4457	0.565	58.86	58.86
7	3/18/79	22	50	0.256	0.4140	0.525	59.13	59.13
7	3/18/79	23	26	0.244	0.3823	0.485	59.44	59.44
7	3/18/79	23	55	0.232	0.3528	0.447	59.66	59.66
7	3/19/79	0	18	0.223	0.3307	0.419	59.83	59.83
7	3/19/79	0	40	0.216	0.3160	0.401	59.98	59.98
7	3/19/79	1	24	0.213	0.3087	0.391	60.27	60.27
7	3/19/79	2	20	0.207	0.2951	0.374	60.62	60.62
7	3/19/79	3	6	0.195	0.2679	0.340	60.90	60.90
7	3/19/79	3	56	0.183	0.2407	0.305	61.17	61.17
7	3/19/79	4	48	0.171	0.2158	0.274	61.42	61.42
7	3/19/79	5	40	0.158	0.1909	0.242	61.64	61.64
7	3/19/79	6	24	0.149	0.1730	0.219	61.81	61.81
7	3/19/79	7	10	0.140	0.1569	0.199	61.97	61.97
7	3/19/79	7	40	0.134	0.1461	0.185	62.07	62.07
7	3/19/79	8	20	0.128	0.1354	0.172	62.18	62.18
7	3/19/79	9	0	0.122	0.1246	0.158	62.29	62.29
7	3/19/79	9	50	0.116	0.1161	0.147	62.42	62.42
7	3/19/79	10	34	0.110	0.1076	0.136	62.53	62.53
7	3/19/79	11	33	0.104	0.0991	0.126	62.65	62.65
7	3/19/79	12	18	0.098	0.0906	0.115	62.74	62.74
7	3/19/79	13	7	0.094	0.0864	0.109	62.84	62.84
7	3/19/79	13	47	0.091	0.0821	0.104	62.91	62.91
7	3/19/79	14	30	0.088	0.0784	0.099	62.98	62.98
7	3/19/79	15	16	0.085	0.0748	0.095	63.05	63.05

TABLE D1- 4. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	3/19/79	15	30	0.082	0.0711	0.090	63.08	63.08
7	3/19/79	15	54	0.079	0.0674	0.085	63.11	63.11
7	3/19/79	16	30	0.076	0.0637	0.081	63.16	63.16
7	3/19/79	16	58	0.073	0.0600	0.076	63.20	63.20
7	3/19/79	17	28	0.070	0.0564	0.071	63.23	63.23
7	3/19/79	18	0	0.067	0.0527	0.067	63.27	63.27
7	3/19/79	18	37	0.064	0.0490	0.062	63.31	63.31
7	3/19/79	19	20	0.061	0.0453	0.057	63.35	63.35
7	3/19/79	20	6	0.058	0.0422	0.053	63.40	63.40
7	3/19/79	20	46	0.055	0.0391	0.050	63.43	63.43
7	3/19/79	21	23	0.052	0.0360	0.046	63.46	63.46
7	3/19/79	22	4	0.049	0.0328	0.042	63.49	63.49
7	3/19/79	22	55	0.046	0.0297	0.038	63.52	63.52
7	3/19/79	23	32	0.043	0.0266	0.034	63.55	63.55
7	3/20/79	0	11	0.040	0.0235	0.030	63.57	63.57
7	3/20/79	0	36	0.037	0.0204	0.026	63.58	63.58
7	3/20/79	1	33	0.034	0.0173	0.022	63.60	63.60
7	3/20/79	2	54	0.030	0.0142	0.018	63.63	63.63
7	3/20/79	4	2	0.027	0.0127	0.016	63.65	63.65
7	3/20/79	6	40	0.024	0.0113	0.014	63.69	63.69
7	3/20/79	10	46	0.024	0.0113	0.014	63.75	63.75
7	3/20/79	11	58	0.018	0.0085	0.011	63.76	63.76
7	3/20/79	13	30	0.0	0.0	0.0	63.77	63.77
7	3/23/79	3	48	0.0	0.0	0.0	0.0	63.77
7	3/23/79	3	50	0.024	0.0113	0.014	0.00	63.77
7	3/23/79	3	52	0.034	0.0173	0.022	0.00	63.77
7	3/23/79	3	54	0.037	0.0204	0.026	0.00	63.77
7	3/23/79	3	57	0.040	0.0235	0.030	0.00	63.77
7	3/23/79	4	5	0.043	0.0266	0.034	0.01	63.78
7	3/23/79	5	5	0.043	0.0266	0.034	0.04	63.81
7	3/23/79	6	58	0.040	0.0235	0.030	0.10	63.87
7	3/23/79	8	10	0.043	0.0266	0.034	0.14	63.91
7	3/23/79	8	38	0.046	0.0297	0.038	0.16	63.92
7	3/23/79	8	49	0.049	0.0328	0.042	0.16	63.93
7	3/23/79	9	3	0.052	0.0360	0.046	0.17	63.94
7	3/23/79	9	21	0.055	0.0391	0.050	0.19	63.96
7	3/23/79	9	52	0.058	0.0422	0.053	0.21	63.98
7	3/23/79	10	8	0.061	0.0453	0.057	0.23	64.00
7	3/23/79	10	19	0.064	0.0490	0.062	0.24	64.01
7	3/23/79	10	25	0.067	0.0527	0.067	0.25	64.02
7	3/23/79	10	33	0.070	0.0564	0.071	0.26	64.02
7	3/23/79	10	36	0.073	0.0600	0.076	0.26	64.03
7	3/23/79	10	42	0.076	0.0637	0.081	0.27	64.04
7	3/23/79	10	46	0.079	0.0674	0.085	0.27	64.04
7	3/23/79	10	50	0.082	0.0711	0.090	0.28	64.05
7	3/23/79	10	55	0.085	0.0748	0.095	0.29	64.05
7	3/23/79	10	57	0.088	0.0784	0.099	0.29	64.06
7	3/23/79	11	3	0.091	0.0821	0.104	0.30	64.07
7	3/23/79	11	5	0.094	0.0864	0.109	0.30	64.07
7	3/23/79	11	7	0.098	0.0906	0.115	0.31	64.08
7	3/23/79	11	9	0.101	0.0949	0.120	0.31	64.08
7	3/23/79	11	11	0.104	0.0991	0.126	0.31	64.08
7	3/23/79	11	13	0.107	0.1034	0.131	0.32	64.09
7	3/23/79	11	14	0.110	0.1076	0.136	0.32	64.09
7	3/23/79	11	16	0.113	0.1119	0.142	0.33	64.09
7	3/23/79	11	19	0.116	0.1161	0.147	0.33	64.10
7	3/23/79	11	22	0.119	0.1203	0.153	0.34	64.11
7	3/23/79	11	25	0.122	0.1246	0.158	0.35	64.12
7	3/23/79	11	30	0.125	0.1300	0.165	0.36	64.13
7	3/23/79	11	34	0.128	0.1354	0.172	0.37	64.14
7	3/23/79	11	36	0.131	0.1407	0.178	0.38	64.15
7	3/23/79	11	39	0.134	0.1461	0.185	0.39	64.16
7	3/23/79	11	43	0.137	0.1515	0.192	0.40	64.17
7	3/23/79	11	46	0.140	0.1569	0.199	0.41	64.18
7	3/23/79	11	49	0.143	0.1623	0.206	0.42	64.19
7	3/23/79	11	56	0.146	0.1676	0.212	0.44	64.21
7	3/23/79	12	2	0.149	0.1730	0.219	0.47	64.24
7	3/23/79	12	15	0.152	0.1784	0.226	0.51	64.28
7	3/23/79	12	44	0.155	0.1846	0.234	0.63	64.39
7	3/23/79	13	10	0.158	0.1909	0.242	0.73	64.50
7	3/23/79	13	32	0.155	0.1846	0.234	0.82	64.59
7	3/23/79	13	43	0.152	0.1784	0.226	0.86	64.63
7	3/23/79	13	51	0.149	0.1730	0.219	0.89	64.66
7	3/23/79	14	5	0.146	0.1676	0.212	0.94	64.71
7	3/23/79	14	10	0.143	0.1623	0.206	0.96	64.72
7	3/23/79	14	20	0.140	0.1569	0.199	0.99	64.76
7	3/23/79	14	25	0.137	0.1515	0.192	1.01	64.77
7	3/23/79	14	33	0.134	0.1461	0.185	1.03	64.80
7	3/23/79	14	47	0.131	0.1407	0.178	1.07	64.84
7	3/23/79	14	53	0.128	0.1354	0.172	1.09	64.86
7	3/23/79	15	8	0.125	0.1300	0.165	1.13	64.90
7	3/23/79	15	20	0.122	0.1246	0.158	1.17	64.93
7	3/23/79	15	37	0.119	0.1203	0.153	1.21	64.98
7	3/23/79	15	49	0.116	0.1161	0.147	1.24	65.01
7	3/23/79	16	1	0.113	0.1119	0.142	1.27	65.04
7	3/23/79	16	8	0.110	0.1076	0.136	1.28	65.05
7	3/23/79	16	18	0.107	0.1034	0.131	1.31	65.08
7	3/23/79	16	22	0.104	0.0991	0.126	1.32	65.08
7	3/23/79	16	29	0.101	0.0949	0.120	1.33	65.10
7	3/23/79	16	32	0.098	0.0906	0.115	1.34	65.10
7	3/23/79	16	34	0.094	0.0864	0.109	1.34	65.11
7	3/23/79	16	36	0.088	0.0784	0.099	1.34	65.11
7	3/23/79	16	40	0.085	0.0748	0.095	1.35	65.12
7	3/23/79	16	43	0.082	0.0711	0.090	1.35	65.12
7	3/23/79	16	46	0.079	0.0674	0.085	1.36	65.13
7	3/23/79	16	50	0.076	0.0637	0.081	1.36	65.13
7	3/23/79	16	56	0.073	0.0600	0.076	1.37	65.14
7	3/23/79	16	58	0.070	0.0564	0.071	1.37	65.14
7	3/23/79	17	1	0.067	0.0527	0.067	1.38	65.15
7	3/23/79	17	4	0.064	0.0490	0.062	1.38	65.15
7	3/23/79	17	9	0.061	0.0453	0.057	1.39	65.15
7	3/23/79	17	14	0.058	0.0422	0.053	1.39	65.16

TABLE D1- 4. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	3/23/79	17	22	0.055	0.0391	0.050	1.40	65.17
7	3/23/79	17	27	0.052	0.0360	0.046	1.40	65.17
7	3/23/79	17	35	0.049	0.0328	0.042	1.41	65.18
7	3/23/79	17	43	0.046	0.0297	0.038	1.41	65.18
7	3/23/79	17	53	0.046	0.0297	0.038	1.42	65.19
7	3/23/79	18	5	0.043	0.0266	0.034	1.43	65.19
7	3/23/79	18	21	0.040	0.0235	0.030	1.43	65.20
7	3/23/79	18	35	0.037	0.0204	0.026	1.44	65.21
7	3/23/79	18	42	0.034	0.0173	0.022	1.44	65.21
7	3/23/79	18	58	0.030	0.0142	0.018	1.45	65.22
7	3/23/79	19	10	0.027	0.0127	0.016	1.45	65.22
7	3/23/79	19	20	0.024	0.0113	0.014	1.45	65.22
7	3/23/79	19	31	0.027	0.0127	0.016	1.46	65.23
7	3/23/79	19	34	0.024	0.0113	0.014	1.46	65.23
7	3/23/79	19	58	0.021	0.0099	0.013	1.46	65.23
7	3/23/79	20	58	0.018	0.0085	0.011	1.48	65.24
7	3/23/79	21	30	0.015	0.0071	0.009	1.48	65.25
7	3/23/79	21	53	0.012	0.0057	0.007	1.48	65.25
7	3/23/79	22	9	0.009	0.0042	0.005	1.49	65.25
7	3/23/79	22	24	0.006	0.0028	0.004	1.49	65.25
7	3/23/79	22	43	0.003	0.0014	0.002	1.49	65.26
7	3/23/79	23	59	0.0	0.0	0.0	1.49	65.26
7	3/28/79	15	22	0.0	0.0	0.0	0.0	65.26
7	3/28/79	15	25	0.073	0.0600	0.076	0.00	65.26
7	3/28/79	15	26	0.091	0.0821	0.104	0.00	65.26
7	3/28/79	15	27	0.110	0.1076	0.136	0.01	65.26
7	3/28/79	15	28	0.122	0.1246	0.158	0.01	65.26
7	3/28/79	15	30	0.128	0.1354	0.172	0.01	65.27
7	3/28/79	15	31	0.131	0.1407	0.178	0.02	65.27
7	3/28/79	15	35	0.134	0.1461	0.185	0.03	65.29
7	3/28/79	15	40	0.137	0.1515	0.192	0.04	65.30
7	3/28/79	15	41	0.146	0.1676	0.212	0.05	65.30
7	3/28/79	15	50	0.146	0.1676	0.212	0.08	65.34
7	3/28/79	15	55	0.143	0.1623	0.206	0.10	65.35
7	3/28/79	15	58	0.140	0.1569	0.199	0.11	65.36
7	3/28/79	16	2	0.137	0.1515	0.192	0.12	65.38
7	3/28/79	16	5	0.134	0.1461	0.185	0.13	65.39
7	3/28/79	16	15	0.131	0.1407	0.178	0.16	65.42
7	3/28/79	16	26	0.131	0.1407	0.178	0.19	65.45
7	3/28/79	16	35	0.128	0.1354	0.172	0.22	65.48
7	3/28/79	16	48	0.125	0.1300	0.165	0.26	65.51
7	3/28/79	17	0	0.122	0.1246	0.158	0.29	65.54
7	3/28/79	17	22	0.125	0.1300	0.165	0.35	65.60
7	3/28/79	17	34	0.128	0.1354	0.172	0.38	65.64
7	3/28/79	17	42	0.131	0.1407	0.178	0.40	65.66
7	3/28/79	17	45	0.134	0.1461	0.185	0.41	65.67
7	3/28/79	17	48	0.137	0.1515	0.192	0.42	65.68
7	3/28/79	17	50	0.140	0.1569	0.199	0.43	65.69
7	3/28/79	17	52	0.143	0.1623	0.206	0.44	65.69
7	3/28/79	17	54	0.146	0.1676	0.212	0.44	65.70
7	3/28/79	17	56	0.149	0.1730	0.219	0.45	65.71
7	3/28/79	17	59	0.152	0.1784	0.226	0.46	65.72
7	3/28/79	18	1	0.155	0.1846	0.234	0.47	65.72
7	3/28/79	18	4	0.158	0.1909	0.242	0.48	65.74
7	3/28/79	18	6	0.162	0.1971	0.250	0.49	65.74
7	3/28/79	18	10	0.165	0.2033	0.258	0.51	65.76
7	3/28/79	18	14	0.168	0.2095	0.266	0.52	65.78
7	3/28/79	18	19	0.171	0.2158	0.274	0.55	65.80
7	3/28/79	18	36	0.171	0.2158	0.274	0.62	65.88
7	3/28/79	18	49	0.168	0.2095	0.266	0.68	65.94
7	3/28/79	18	55	0.165	0.2033	0.258	0.71	65.96
7	3/28/79	19	1	0.162	0.1971	0.250	0.73	65.99
7	3/28/79	19	6	0.158	0.1909	0.242	0.75	66.01
7	3/28/79	19	14	0.155	0.1846	0.234	0.78	66.04
7	3/28/79	19	20	0.152	0.1784	0.226	0.81	66.06
7	3/28/79	19	26	0.180	0.2345	0.297	0.83	66.09
7	3/28/79	19	32	0.146	0.1676	0.212	0.86	66.12
7	3/28/79	19	38	0.143	0.1623	0.206	0.88	66.14
7	3/28/79	19	44	0.140	0.1569	0.199	0.90	66.16
7	3/28/79	19	50	0.137	0.1515	0.192	0.92	66.18
7	3/28/79	19	56	0.134	0.1461	0.185	0.94	66.20
7	3/28/79	20	2	0.131	0.1407	0.178	0.96	66.21
7	3/28/79	20	11	0.128	0.1354	0.172	0.98	66.24
7	3/28/79	20	22	0.125	0.1300	0.165	1.01	66.27
7	3/28/79	20	35	0.122	0.1246	0.158	1.05	66.31
7	3/28/79	20	50	0.119	0.1203	0.153	1.09	66.34
7	3/28/79	21	18	0.116	0.1161	0.147	1.16	66.41
7	3/28/79	21	36	0.113	0.1119	0.142	1.20	66.46
7	3/28/79	21	47	0.110	0.1076	0.136	1.23	66.48
7	3/28/79	21	55	0.107	0.1034	0.131	1.24	66.50
7	3/28/79	22	2	0.104	0.0991	0.126	1.26	66.52
7	3/28/79	22	10	0.101	0.0949	0.120	1.28	66.53
7	3/28/79	22	19	0.098	0.0906	0.115	1.29	66.55
7	3/28/79	22	29	0.094	0.0864	0.109	1.31	66.57
7	3/28/79	22	45	0.091	0.0821	0.104	1.34	66.60
7	3/28/79	22	57	0.088	0.0784	0.099	1.36	66.62
7	3/28/79	23	6	0.085	0.0748	0.095	1.38	66.63
7	3/28/79	23	16	0.082	0.0711	0.090	1.39	66.65
7	3/28/79	23	28	0.079	0.0674	0.085	1.41	66.66
7	3/28/79	23	42	0.076	0.0637	0.081	1.43	66.68
7	3/28/79	23	58	0.073	0.0600	0.076	1.45	66.71
7	3/29/79	0	17	0.070	0.0564	0.071	1.47	66.73
7	3/29/79	0	30	0.067	0.0527	0.067	1.49	66.74
7	3/29/79	0	42	0.064	0.0490	0.062	1.50	66.76
7	3/29/79	1	0	0.061	0.0453	0.057	1.52	66.77
7	3/29/79	1	23	0.058	0.0422	0.053	1.54	66.80
7	3/29/79	1	42	0.055	0.0391	0.050	1.56	66.81
7	3/29/79	2	7	0.052	0.0360	0.046	1.58	66.83
7	3/29/79	2	34	0.049	0.0328	0.042	1.60	66.85
7	3/29/79	3	16	0.046	0.0297	0.038	1.62	66.88
7	3/29/79	3	52	0.043	0.0266	0.034	1.64	66.90
7	3/29/79	4	31	0.040	0.0235	0.030	1.66	66.92

TABLE D1- 4. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	3/29/79	5	20	0.037	0.0204	0.026	1.69	66.94
7	3/29/79	6	17	0.037	0.0204	0.026	1.71	66.97
7	3/29/79	6	21	0.040	0.0235	0.030	1.71	66.97
7	3/29/79	6	24	0.043	0.0266	0.034	1.72	66.97
7	3/29/79	6	28	0.049	0.0328	0.042	1.72	66.97
7	3/29/79	6	33	0.055	0.0391	0.050	1.72	66.98
7	3/29/79	6	35	0.058	0.0422	0.053	1.72	66.98
7	3/29/79	6	37	0.061	0.0453	0.057	1.73	66.98
7	3/29/79	6	40	0.064	0.0490	0.062	1.73	66.98
7	3/29/79	6	43	0.067	0.0527	0.067	1.73	66.99
7	3/29/79	6	46	0.070	0.0564	0.071	1.74	66.99
7	3/29/79	6	47	0.073	0.0600	0.076	1.74	66.99
7	3/29/79	6	48	0.076	0.0637	0.081	1.74	66.99
7	3/29/79	6	50	0.085	0.0748	0.095	1.74	67.00
7	3/29/79	6	53	0.091	0.0821	0.104	1.75	67.00
7	3/29/79	6	54	0.094	0.0864	0.109	1.75	67.00
7	3/29/79	6	55	0.098	0.0906	0.115	1.75	67.01
7	3/29/79	6	56	0.104	0.0991	0.126	1.75	67.01
7	3/29/79	6	58	0.116	0.1161	0.147	1.76	67.01
7	3/29/79	7	0	0.128	0.1354	0.172	1.76	67.02
7	3/29/79	7	2	0.143	0.1623	0.206	1.77	67.02
7	3/29/79	7	3	0.149	0.1730	0.219	1.77	67.03
7	3/29/79	7	4	0.162	0.1971	0.250	1.77	67.03
7	3/29/79	7	5	0.168	0.2095	0.266	1.78	67.04
7	3/29/79	7	6	0.174	0.2220	0.281	1.78	67.04
7	3/29/79	7	7	0.180	0.2345	0.297	1.79	67.04
7	3/29/79	7	8	0.189	0.2543	0.322	1.79	67.05
7	3/29/79	7	14	0.213	0.3087	0.391	1.83	67.09
7	3/29/79	7	21	0.244	0.3823	0.485	1.88	67.14
7	3/29/79	7	27	0.274	0.4616	0.585	1.93	67.19
7	3/29/79	7	29	0.283	0.4870	0.617	1.95	67.21
7	3/29/79	7	30	0.287	0.4955	0.628	1.96	67.22
7	3/29/79	7	33	0.305	0.5465	0.693	2.00	67.25
7	3/29/79	7	34	0.335	0.7136	0.905	2.01	67.27
7	3/29/79	7	38	0.341	0.7464	0.946	2.07	67.33
7	3/29/79	7	46	0.323	0.6468	0.820	2.19	67.45
7	3/29/79	7	54	0.305	0.5465	0.693	2.29	67.55
7	3/29/79	7	57	0.302	0.5380	0.682	2.33	67.58
7	3/29/79	7	58	0.287	0.4955	0.628	2.34	67.59
7	3/29/79	8	4	0.283	0.4870	0.617	2.40	67.65
7	3/29/79	8	7	0.280	0.4786	0.607	2.43	67.69
7	3/29/79	8	10	0.277	0.4701	0.596	2.46	67.72
7	3/29/79	8	11	0.274	0.4616	0.585	2.47	67.72
7	3/29/79	8	13	0.247	0.3902	0.495	2.49	67.74
7	3/29/79	8	18	0.244	0.3823	0.485	2.53	67.78
7	3/29/79	8	20	0.235	0.3602	0.457	2.54	67.80
7	3/29/79	8	29	0.229	0.3455	0.438	2.61	67.87
7	3/29/79	8	31	0.247	0.3902	0.495	2.63	67.88
7	3/29/79	8	34	0.244	0.3823	0.485	2.65	67.91
7	3/29/79	8	37	0.247	0.3902	0.495	2.68	67.93
7	3/29/79	8	39	0.241	0.3749	0.475	2.69	67.95
7	3/29/79	8	45	0.244	0.3823	0.485	2.74	68.00
7	3/29/79	8	46	0.253	0.4061	0.515	2.75	68.00
7	3/29/79	8	50	0.244	0.3823	0.485	2.78	68.04
7	3/29/79	8	53	0.232	0.3528	0.447	2.80	68.06
7	3/29/79	8	56	0.226	0.3381	0.429	2.83	68.08
7	3/29/79	8	58	0.216	0.3160	0.401	2.84	68.10
7	3/29/79	9	0	0.213	0.3087	0.391	2.85	68.11
7	3/29/79	9	1	0.207	0.2951	0.374	2.86	68.12
7	3/29/79	9	2	0.204	0.2883	0.365	2.87	68.12
7	3/29/79	9	3	0.198	0.2747	0.348	2.87	68.13
7	3/29/79	9	5	0.195	0.2679	0.340	2.88	68.14
7	3/29/79	9	6	0.189	0.2543	0.322	2.89	68.14
7	3/29/79	9	7	0.183	0.2407	0.305	2.89	68.15
7	3/29/79	9	8	0.174	0.2220	0.281	2.90	68.15
7	3/29/79	9	12	0.168	0.2095	0.266	2.92	68.17
7	3/29/79	9	15	0.171	0.2158	0.274	2.93	68.19
7	3/29/79	9	17	0.177	0.2282	0.289	2.94	68.20
7	3/29/79	9	18	0.198	0.2747	0.348	2.95	68.20
7	3/29/79	9	23	0.195	0.2679	0.340	2.97	68.23
7	3/29/79	9	25	0.183	0.2407	0.305	2.98	68.24
7	3/29/79	9	30	0.168	0.2095	0.266	3.01	68.26
7	3/29/79	9	33	0.162	0.1971	0.250	3.02	68.28
7	3/29/79	9	40	0.168	0.2095	0.266	3.05	68.31
7	3/29/79	9	44	0.162	0.1971	0.250	3.07	68.32
7	3/29/79	9	50	0.162	0.1971	0.250	3.09	68.35
7	3/29/79	9	57	0.168	0.2095	0.266	3.12	68.38
7	3/29/79	10	2	0.162	0.1971	0.250	3.14	68.40
7	3/29/79	10	24	0.186	0.2475	0.314	3.25	68.50
7	3/29/79	10	38	0.204	0.2883	0.365	3.33	68.58
7	3/29/79	10	52	0.216	0.3160	0.401	3.42	68.67
7	3/29/79	11	10	0.241	0.3749	0.475	3.55	68.80
7	3/29/79	11	14	0.244	0.3823	0.485	3.58	68.84
7	3/29/79	11	16	0.256	0.4140	0.525	3.60	68.85
7	3/29/79	11	18	0.259	0.4219	0.535	3.61	68.87
7	3/29/79	11	27	0.259	0.4219	0.535	3.69	68.95
7	3/29/79	11	35	0.265	0.4378	0.555	3.77	69.02
7	3/29/79	11	39	0.271	0.4536	0.575	3.81	69.06
7	3/29/79	11	44	0.274	0.4616	0.585	3.85	69.11
7	3/29/79	11	50	0.280	0.4786	0.607	3.91	69.17
7	3/29/79	12	0	0.287	0.4955	0.628	4.02	69.27
7	3/29/79	12	12	0.290	0.5040	0.639	4.14	69.40
7	3/29/79	12	19	0.290	0.5040	0.639	4.22	69.47
7	3/29/79	12	22	0.293	0.5125	0.650	4.25	69.51
7	3/29/79	12	27	0.290	0.5040	0.639	4.30	69.56
7	3/29/79	12	42	0.293	0.5125	0.650	4.46	69.72
7	3/29/79	12	51	0.296	0.5210	0.660	4.56	69.82
7	3/29/79	12	55	0.299	0.5295	0.671	4.61	69.86
7	3/29/79	12	58	0.305	0.5465	0.693	4.64	69.90
7	3/29/79	13	1	0.311	0.5799	0.735	4.68	69.93
7	3/29/79	13	4	0.323	0.6468	0.820	4.72	69.97
7	3/29/79	13	15	0.347	0.7793	0.988	4.88	70.14
7	3/29/79	13	20	0.360	0.8450	1.071	4.97	70.22
7	3/29/79	13	26	0.369	0.8948	1.134	5.08	70.33

TABLE D1- 4. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	3/29/79	13	35	0.375	0.9288	1.177	5.25	70.51
7	3/29/79	13	42	0.372	0.9118	1.156	5.39	70.64
7	3/29/79	13	46	0.369	0.8948	1.134	5.46	70.72
7	3/29/79	14	0	0.366	0.8778	1.113	5.73	70.98
7	3/29/79	14	16	0.363	0.8614	1.092	6.02	71.27
7	3/29/79	14	23	0.360	0.8450	1.071	6.15	71.40
7	3/29/79	14	26	0.357	0.8285	1.050	6.20	71.45
7	3/29/79	14	31	0.354	0.8121	1.029	6.29	71.54
7	3/29/79	14	34	0.351	0.7957	1.009	6.34	71.59
7	3/29/79	14	36	0.347	0.7793	0.988	6.37	71.62
7	3/29/79	14	38	0.344	0.7629	0.967	6.40	71.66
7	3/29/79	14	41	0.341	0.7464	0.946	6.45	71.71
7	3/29/79	14	45	0.335	0.7136	0.905	6.51	71.77
7	3/29/79	14	48	0.332	0.6969	0.883	6.56	71.81
7	3/29/79	14	50	0.329	0.6802	0.862	6.59	71.84
7	3/29/79	14	54	0.323	0.6468	0.820	6.64	71.90
7	3/29/79	14	56	0.320	0.6300	0.799	6.67	71.92
7	3/29/79	14	59	0.317	0.6133	0.777	6.71	71.96
7	3/29/79	15	2	0.314	0.5966	0.756	6.75	72.00
7	3/29/79	15	4	0.311	0.5799	0.735	6.77	72.03
7	3/29/79	15	7	0.308	0.5632	0.714	6.81	72.06
7	3/29/79	15	9	0.305	0.5465	0.693	6.83	72.09
7	3/29/79	15	11	0.302	0.5380	0.682	6.85	72.11
7	3/29/79	15	13	0.299	0.5295	0.671	6.88	72.13
7	3/29/79	15	17	0.293	0.5125	0.650	6.92	72.18
7	3/29/79	15	21	0.287	0.4955	0.628	6.96	72.22
7	3/29/79	15	24	0.280	0.4786	0.607	6.99	72.25
7	3/29/79	15	29	0.274	0.4616	0.585	7.04	72.30
7	3/29/79	15	34	0.268	0.4457	0.565	7.09	72.35
7	3/29/79	15	42	0.259	0.4219	0.535	7.16	72.42
7	3/29/79	15	51	0.250	0.3981	0.505	7.24	72.50
7	3/29/79	15	59	0.244	0.3823	0.485	7.31	72.56
7	3/29/79	16	8	0.232	0.3528	0.447	7.38	72.63
7	3/29/79	16	19	0.219	0.3234	0.410	7.46	72.71
7	3/29/79	16	34	0.207	0.2951	0.374	7.55	72.81
7	3/29/79	16	50	0.195	0.2679	0.340	7.65	72.91
7	3/29/79	17	2	0.183	0.2407	0.305	7.71	72.97
7	3/29/79	17	36	0.152	0.1784	0.226	7.86	73.12
7	3/29/79	18	0	0.143	0.1623	0.206	7.95	73.21
7	3/29/79	18	10	0.134	0.1461	0.185	7.98	73.24
7	3/29/79	18	23	0.134	0.1461	0.185	8.02	73.28
7	3/29/79	18	34	0.131	0.1407	0.178	8.06	73.31
7	3/29/79	18	46	0.128	0.1354	0.172	8.09	73.35
7	3/29/79	19	2	0.128	0.1354	0.172	8.14	73.39
7	3/29/79	19	19	0.125	0.1300	0.165	8.19	73.44
7	3/29/79	19	35	0.122	0.1246	0.158	8.23	73.48
7	3/29/79	19	55	0.119	0.1203	0.153	8.28	73.54
7	3/29/79	20	3	0.116	0.1161	0.147	8.30	73.56
7	3/29/79	20	34	0.113	0.1119	0.142	8.38	73.63
7	3/29/79	20	53	0.110	0.1076	0.136	8.42	73.67
7	3/29/79	21	11	0.107	0.1034	0.131	8.46	73.71
7	3/29/79	21	23	0.104	0.0991	0.126	8.48	73.74
7	3/29/79	21	35	0.101	0.0949	0.120	8.51	73.76
7	3/29/79	21	46	0.098	0.0906	0.115	8.53	73.79
7	3/29/79	21	55	0.094	0.0864	0.109	8.55	73.80
7	3/29/79	22	9	0.091	0.0821	0.104	8.57	73.83
7	3/29/79	22	21	0.088	0.0784	0.099	8.59	73.85
7	3/29/79	22	31	0.085	0.0748	0.095	8.61	73.86
7	3/29/79	22	43	0.082	0.0711	0.090	8.63	73.88
7	3/29/79	22	59	0.079	0.0674	0.085	8.65	73.91
7	3/29/79	23	17	0.076	0.0637	0.081	8.68	73.93
7	3/29/79	23	54	0.073	0.0600	0.076	8.72	73.98
7	3/30/79	0	13	0.070	0.0564	0.071	8.75	74.00
7	3/30/79	0	39	0.067	0.0527	0.067	8.78	74.03
7	3/30/79	0	55	0.064	0.0490	0.062	8.79	74.05
7	3/30/79	1	32	0.061	0.0453	0.057	8.83	74.09
7	3/30/79	2	10	0.058	0.0422	0.053	8.87	74.12
7	3/30/79	2	41	0.055	0.0391	0.050	8.89	74.15
7	3/30/79	3	8	0.052	0.0360	0.046	8.91	74.17
7	3/30/79	4	40	0.049	0.0328	0.042	8.98	74.24
7	3/30/79	6	40	0.046	0.0297	0.038	9.06	74.32
7	3/30/79	8	20	0.043	0.0266	0.034	9.12	74.38
7	3/30/79	12	10	0.040	0.0235	0.030	9.24	74.50
7	3/30/79	12	39	0.037	0.0204	0.026	9.26	74.51
7	3/30/79	13	5	0.034	0.0173	0.022	9.27	74.52
7	3/30/79	13	56	0.030	0.0142	0.018	9.28	74.54
7	3/30/79	14	46	0.027	0.0127	0.016	9.30	74.55
7	3/30/79	15	29	0.024	0.0113	0.014	9.31	74.56
7	3/30/79	16	30	0.021	0.0099	0.013	9.32	74.58
7	3/30/79	17	20	0.018	0.0085	0.011	9.33	74.59
7	3/30/79	20	8	0.018	0.0085	0.011	9.36	74.62
7	3/30/79	20	58	0.015	0.0071	0.009	9.37	74.63
7	3/30/79	21	26	0.012	0.0057	0.007	9.37	74.63
7	3/30/79	22	10	0.009	0.0042	0.005	9.38	74.63
7	3/30/79	22	50	0.006	0.0028	0.004	9.38	74.64
7	3/30/79	23	9	0.003	0.0014	0.002	9.38	74.64
7	3/30/79	23	59	0.0	0.0	0.0	9.38	74.64
7	4/20/79	9	26	0.0	0.0	0.0	0.0	74.64
7	4/20/79	9	29	0.116	0.1161	0.147	0.00	74.64
7	4/20/79	9	30	0.119	0.1203	0.153	0.01	74.64
7	4/20/79	9	31	0.125	0.1300	0.165	0.01	74.65
7	4/20/79	9	32	0.131	0.1407	0.178	0.01	74.65
7	4/20/79	9	34	0.137	0.1515	0.192	0.02	74.66
7	4/20/79	9	36	0.140	0.1569	0.199	0.02	74.66
7	4/20/79	9	40	0.143	0.1623	0.206	0.04	74.68
7	4/20/79	9	46	0.140	0.1569	0.199	0.06	74.70
7	4/20/79	9	52	0.137	0.1515	0.192	0.08	74.72
7	4/20/79	9	56	0.134	0.1461	0.185	0.09	74.73
7	4/20/79	10	8	0.131	0.1407	0.178	0.13	74.76
7	4/20/79	10	29	0.134	0.1461	0.185	0.19	74.83
7	4/20/79	10	48	0.137	0.1515	0.192	0.25	74.89
7	4/20/79	11	6	0.140	0.1569	0.199	0.31	74.95

TABLE D1- 4. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	4/20/79	11	15	0.143	0.1623	0.206	0.34	74.98
7	4/20/79	11	19	0.146	0.1676	0.212	0.35	74.99
7	4/20/79	11	22	0.149	0.1730	0.219	0.36	75.00
7	4/20/79	11	26	0.155	0.1846	0.234	0.38	75.02
7	4/20/79	11	28	0.158	0.1909	0.242	0.39	75.02
7	4/20/79	11	31	0.162	0.1971	0.250	0.40	75.04
7	4/20/79	11	38	0.165	0.2033	0.258	0.43	75.07
7	4/20/79	11	46	0.162	0.1971	0.250	0.46	75.10
7	4/20/79	11	56	0.158	0.1909	0.242	0.50	75.14
7	4/20/79	12	11	0.155	0.1846	0.234	0.56	75.20
7	4/20/79	12	24	0.155	0.1846	0.234	0.61	75.25
7	4/20/79	12	34	0.158	0.1909	0.242	0.65	75.29
7	4/20/79	12	37	0.162	0.1971	0.250	0.67	75.30
7	4/20/79	12	40	0.165	0.2033	0.258	0.68	75.32
7	4/20/79	12	43	0.168	0.2095	0.266	0.69	75.33
7	4/20/79	12	45	0.171	0.2158	0.274	0.70	75.34
7	4/20/79	12	48	0.174	0.2220	0.281	0.71	75.35
7	4/20/79	12	50	0.177	0.2282	0.289	0.72	75.36
7	4/20/79	13	2	0.180	0.2345	0.297	0.78	75.42
7	4/20/79	13	4	0.186	0.2475	0.314	0.79	75.43
7	4/20/79	13	6	0.192	0.2611	0.331	0.80	75.44
7	4/20/79	13	8	0.201	0.2815	0.357	0.81	75.45
7	4/20/79	13	9	0.204	0.2883	0.365	0.82	75.46
7	4/20/79	13	10	0.210	0.3019	0.383	0.83	75.46
7	4/20/79	13	11	0.216	0.3160	0.401	0.83	75.47
7	4/20/79	13	12	0.226	0.3381	0.429	0.84	75.48
7	4/20/79	13	13	0.232	0.3528	0.447	0.85	75.49
7	4/20/79	13	14	0.241	0.3749	0.475	0.86	75.49
7	4/20/79	13	15	0.256	0.4140	0.525	0.86	75.50
7	4/20/79	13	16	0.271	0.4536	0.575	0.87	75.51
7	4/20/79	13	17	0.283	0.4870	0.617	0.88	75.52
7	4/20/79	13	18	0.290	0.5040	0.639	0.89	75.53
7	4/20/79	13	22	0.296	0.5210	0.660	0.94	75.57
7	4/20/79	13	33	0.296	0.5210	0.660	1.06	75.70
7	4/20/79	13	49	0.283	0.4870	0.617	1.23	75.87
7	4/20/79	14	2	0.274	0.4616	0.585	1.36	76.00
7	4/20/79	14	11	0.265	0.4378	0.555	1.44	76.08
7	4/20/79	14	29	0.253	0.4061	0.515	1.60	76.24
7	4/20/79	14	43	0.244	0.3823	0.485	1.72	76.36
7	4/20/79	14	50	0.241	0.3749	0.475	1.78	76.41
7	4/20/79	15	4	0.238	0.3676	0.466	1.89	76.52
7	4/20/79	15	13	0.235	0.3602	0.457	1.96	76.59
7	4/20/79	15	22	0.232	0.3528	0.447	2.02	76.66
7	4/20/79	15	30	0.229	0.3455	0.438	2.08	76.72
7	4/20/79	15	36	0.226	0.3381	0.429	2.13	76.76
7	4/20/79	15	41	0.223	0.3307	0.419	2.16	76.80
7	4/20/79	15	48	0.219	0.3234	0.410	2.21	76.85
7	4/20/79	15	54	0.216	0.3160	0.401	2.25	76.89
7	4/20/79	16	2	0.213	0.3087	0.391	2.30	76.94
7	4/20/79	16	7	0.210	0.3019	0.383	2.34	76.97
7	4/20/79	16	14	0.207	0.2951	0.374	2.38	77.02
7	4/20/79	16	19	0.204	0.2883	0.365	2.41	77.05
7	4/20/79	16	26	0.201	0.2815	0.357	2.45	77.09
7	4/20/79	16	30	0.198	0.2747	0.348	2.48	77.11
7	4/20/79	16	35	0.195	0.2679	0.340	2.50	77.14
7	4/20/79	16	39	0.192	0.2611	0.331	2.53	77.16
7	4/20/79	16	45	0.189	0.2543	0.322	2.56	77.20
7	4/20/79	16	50	0.186	0.2475	0.314	2.59	77.22
7	4/20/79	16	56	0.183	0.2407	0.305	2.62	77.25
7	4/20/79	17	2	0.180	0.2345	0.297	2.65	77.28
7	4/20/79	17	8	0.177	0.2282	0.289	2.68	77.31
7	4/20/79	17	15	0.174	0.2220	0.281	2.71	77.35
7	4/20/79	17	20	0.171	0.2158	0.274	2.73	77.37
7	4/20/79	17	28	0.168	0.2095	0.266	2.77	77.41
7	4/20/79	17	35	0.165	0.2033	0.258	2.80	77.44
7	4/20/79	17	41	0.162	0.1971	0.250	2.82	77.46
7	4/20/79	17	50	0.158	0.1909	0.242	2.86	77.50
7	4/20/79	17	57	0.155	0.1846	0.234	2.89	77.53
7	4/20/79	18	6	0.152	0.1784	0.226	2.92	77.56
7	4/20/79	18	20	0.149	0.1730	0.219	2.98	77.61
7	4/20/79	18	33	0.146	0.1676	0.212	3.02	77.66
7	4/20/79	18	49	0.143	0.1623	0.206	3.08	77.72
7	4/20/79	19	3	0.140	0.1569	0.199	3.13	77.76
7	4/20/79	19	14	0.137	0.1515	0.192	3.16	77.80
7	4/20/79	19	35	0.134	0.1461	0.185	3.23	77.86
7	4/20/79	19	56	0.131	0.1407	0.178	3.29	77.93
7	4/20/79	20	26	0.128	0.1354	0.172	3.38	78.02
7	4/20/79	20	53	0.125	0.1300	0.165	3.45	78.09
7	4/20/79	21	25	0.122	0.1246	0.158	3.54	78.18
7	4/20/79	21	59	0.119	0.1203	0.153	3.63	78.27
7	4/20/79	22	49	0.116	0.1161	0.147	3.75	78.39
7	4/20/79	23	46	0.113	0.1119	0.142	3.89	78.53
7	4/21/79	1	0	0.110	0.1076	0.136	4.06	78.70
7	4/21/79	2	0	0.107	0.1034	0.131	4.20	78.83
7	4/21/79	7	0	0.091	0.0821	0.104	4.78	79.42
7	4/21/79	12	0	0.076	0.0637	0.081	5.25	79.88
7	4/21/79	17	0	0.061	0.0453	0.057	5.59	80.23
7	4/21/79	22	0	0.046	0.0297	0.038	5.83	80.47
7	4/22/79	3	0	0.030	0.0142	0.018	5.97	80.61
7	4/22/79	8	0	0.015	0.0071	0.009	6.04	80.67
7	4/22/79	12	0	0.003	0.0014	0.002	6.06	80.69
7	4/22/79	18	0	0.003	0.0014	0.002	6.07	80.70
7	4/22/79	24	0	0.003	0.0014	0.002	6.08	80.72
7	4/23/79	6	0	0.003	0.0014	0.002	6.09	80.73
7	4/23/79	12	0	0.003	0.0014	0.002	6.10	80.74
7	4/23/79	18	0	0.003	0.0014	0.002	6.11	80.75
7	4/23/79	24	0	0.003	0.0014	0.002	6.12	80.76
7	4/24/79	6	0	0.003	0.0014	0.002	6.13	80.77
7	4/24/79	12	0	0.003	0.0014	0.002	6.14	80.78
7	4/24/79	18	0	0.003	0.0014	0.002	6.15	80.79
7	4/24/79	23	59	0.0	0.0	0.0	6.16	80.80
7	6/12/79	18	8	0.0	0.0	0.0	0.0	80.80

TABLE D1- 4. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	6/12/79	18	9	0.155	0.1846	0.234	0.00	80.80
7	6/12/79	18	10	0.192	0.2611	0.331	0.01	80.80
7	6/12/79	18	12	0.451	1.3535	1.716	0.04	80.84
7	6/12/79	18	14	0.710	2.7977	3.546	0.13	80.92
7	6/12/79	18	16	0.914	3.9077	4.953	0.27	81.07
7	6/12/79	18	18	1.119	5.1882	6.577	0.46	81.26
7	6/12/79	18	19	1.161	5.4499	6.908	0.57	81.37
7	6/12/79	18	20	1.192	5.6368	7.145	0.69	81.49
7	6/12/79	18	21	1.210	5.7489	7.287	0.81	81.61
7	6/12/79	18	22	1.228	5.8627	7.432	0.93	81.73
7	6/12/79	18	23	1.244	5.9590	7.554	1.06	81.86
7	6/12/79	18	24	1.256	6.0360	7.651	1.19	81.98
7	6/12/79	18	26	1.247	5.9783	7.578	1.44	82.24
7	6/12/79	18	28	1.237	5.9205	7.505	1.69	82.49
7	6/12/79	18	30	1.216	5.7863	7.335	1.94	82.73
7	6/12/79	18	31	1.201	5.6928	7.216	2.06	82.86
7	6/12/79	18	32	1.189	5.6181	7.121	2.18	82.98
7	6/12/79	18	33	1.167	5.4872	6.956	2.30	83.09
7	6/12/79	18	34	1.152	5.3938	6.837	2.41	83.21
7	6/12/79	18	35	1.131	5.2630	6.671	2.52	83.32
7	6/12/79	18	36	1.116	5.1695	6.553	2.63	83.43
7	6/12/79	18	37	1.088	5.0013	6.340	2.74	83.54
7	6/12/79	18	39	1.015	4.5432	5.759	2.94	83.74
7	6/12/79	18	41	0.945	4.1003	5.198	3.13	83.92
7	6/12/79	18	42	0.908	3.8737	4.910	3.21	84.01
7	6/12/79	18	43	0.863	3.6189	4.587	3.29	84.09
7	6/12/79	18	44	0.820	3.3810	4.286	3.36	84.16
7	6/12/79	18	45	0.765	3.0880	3.914	3.43	84.23
7	6/12/79	18	47	0.695	2.7128	3.439	3.55	84.35
7	6/12/79	18	49	0.625	2.3007	2.916	3.66	84.46
7	6/12/79	18	50	0.604	2.1747	2.757	3.71	84.50
7	6/12/79	18	51	0.582	2.0558	2.606	3.75	84.55
7	6/12/79	18	52	0.564	1.9539	2.477	3.79	84.59
7	6/12/79	18	53	0.546	1.8533	2.349	3.83	84.63
7	6/12/79	18	54	0.533	1.7910	2.270	3.87	84.67
7	6/12/79	18	55	0.524	1.7443	2.211	3.91	84.71
7	6/12/79	18	56	0.518	1.7132	2.172	3.95	84.74
7	6/12/79	18	58	0.503	1.6353	2.073	4.02	84.81
7	6/12/79	19	0	0.488	1.5574	1.974	4.09	84.88
7	6/12/79	19	2	0.479	1.5065	1.910	4.15	84.95
7	6/12/79	19	4	0.463	1.4215	1.802	4.21	85.01
7	6/12/79	19	6	0.451	1.3535	1.716	4.27	85.07
7	6/12/79	19	8	0.433	1.2516	1.587	4.33	85.12
7	6/12/79	19	10	0.418	1.1667	1.479	4.38	85.17
7	6/12/79	19	13	0.405	1.0987	1.393	4.45	85.24
7	6/12/79	19	15	0.393	1.0307	1.307	4.49	85.29
7	6/12/79	19	17	0.378	0.9458	1.199	4.54	85.33
7	6/12/79	19	19	0.363	0.8614	1.092	4.57	85.37
7	6/12/79	19	21	0.354	0.8121	1.029	4.61	85.40
7	6/12/79	19	22	0.347	0.7793	0.988	4.63	85.42
7	6/12/79	19	24	0.335	0.7136	0.905	4.66	85.45
7	6/12/79	19	26	0.326	0.6635	0.841	4.69	85.48
7	6/12/79	19	28	0.311	0.5799	0.735	4.71	85.51
7	6/12/79	19	30	0.299	0.5295	0.671	4.74	85.53
7	6/12/79	19	32	0.290	0.5040	0.639	4.76	85.55
7	6/12/79	19	34	0.277	0.4701	0.596	4.78	85.57
7	6/12/79	19	36	0.268	0.4457	0.565	4.80	85.59
7	6/12/79	19	38	0.259	0.4219	0.535	4.82	85.61
7	6/12/79	19	40	0.250	0.3981	0.505	4.83	85.63
7	6/12/79	19	42	0.244	0.3823	0.485	4.85	85.65
7	6/12/79	19	44	0.235	0.3602	0.457	4.87	85.66
7	6/12/79	19	46	0.229	0.3455	0.438	4.88	85.68
7	6/12/79	19	48	0.223	0.3307	0.419	4.89	85.69
7	6/12/79	19	50	0.216	0.3160	0.401	4.91	85.70
7	6/12/79	19	52	0.213	0.3087	0.391	4.92	85.72
7	6/12/79	19	54	0.210	0.3019	0.383	4.93	85.73
7	6/12/79	19	56	0.204	0.2883	0.365	4.95	85.74
7	6/12/79	19	58	0.198	0.2747	0.348	4.96	85.75
7	6/12/79	20	0	0.195	0.2679	0.340	4.97	85.77
7	6/12/79	20	3	0.189	0.2543	0.322	4.99	85.78
7	6/12/79	20	4	0.186	0.2475	0.314	4.99	85.79
7	6/12/79	20	6	0.183	0.2407	0.305	5.00	85.80
7	6/12/79	20	8	0.180	0.2345	0.297	5.01	85.81
7	6/12/79	20	11	0.174	0.2220	0.281	5.03	85.82
7	6/12/79	20	15	0.168	0.2095	0.266	5.05	85.84
7	6/12/79	20	17	0.165	0.2033	0.258	5.05	85.85
7	6/12/79	20	19	0.162	0.1971	0.250	5.06	85.86
7	6/12/79	20	21	0.158	0.1909	0.242	5.07	85.87
7	6/12/79	20	23	0.155	0.1846	0.234	5.08	85.87
7	6/12/79	20	26	0.152	0.1784	0.226	5.09	85.89
7	6/12/79	20	28	0.149	0.1730	0.219	5.10	85.89
7	6/12/79	20	30	0.146	0.1676	0.212	5.10	85.90
7	6/12/79	20	33	0.143	0.1623	0.206	5.12	85.91
7	6/12/79	20	36	0.140	0.1569	0.199	5.13	85.92
7	6/12/79	20	38	0.137	0.1515	0.192	5.13	85.93
7	6/12/79	20	40	0.134	0.1461	0.185	5.14	85.93
7	6/12/79	20	42	0.131	0.1407	0.178	5.14	85.94
7	6/12/79	20	45	0.128	0.1354	0.172	5.15	85.95
7	6/12/79	20	48	0.125	0.1300	0.165	5.16	85.96
7	6/12/79	20	52	0.122	0.1246	0.158	5.17	85.97
7	6/12/79	20	58	0.119	0.1203	0.153	5.19	85.98
7	6/12/79	21	10	0.116	0.1161	0.147	5.22	86.01
7	6/12/79	21	26	0.113	0.1119	0.142	5.26	86.05
7	6/12/79	21	44	0.101	0.0949	0.120	5.30	86.09
7	6/12/79	22	0	0.088	0.0784	0.099	5.32	86.12
7	6/12/79	22	40	0.052	0.0360	0.046	5.37	86.17
7	6/12/79	23	12	0.021	0.0099	0.013	5.39	86.18
7	6/12/79	23	30	0.009	0.0042	0.005	5.39	86.19
7	6/12/79	23	42	0.003	0.0014	0.002	5.39	86.19
7	6/13/79	1	0	0.0	0.0	0.0	5.39	86.19
7	6/19/79	22	0	0.0	0.0	0.0	0.0	86.19
7	6/19/79	22	27	0.024	0.0113	0.014	0.00	86.19

TABLE D1- 4. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	6/19/79	22	57	0.088	0.0784	0.099	0.03	86.22
7	6/19/79	23	27	0.049	0.0328	0.042	0.07	86.26
7	6/19/79	23	57	0.024	0.0113	0.014	0.08	86.27
7	6/20/79	1	0	0.0	0.0	0.0	0.09	86.28
7	6/27/79	0	5	0.0	0.0	0.0	0.0	86.28
7	6/27/79	0	10	0.101	0.0949	0.120	0.01	86.28
7	6/27/79	0	12	0.107	0.1034	0.131	0.01	86.29
7	6/27/79	0	14	0.113	0.1119	0.142	0.01	86.29
7	6/27/79	0	16	0.116	0.1161	0.147	0.02	86.30
7	6/27/79	0	18	0.119	0.1203	0.153	0.02	86.30
7	6/27/79	0	20	0.216	0.3160	0.401	0.03	86.31
7	6/27/79	0	22	0.424	1.2006	1.522	0.06	86.34
7	6/27/79	0	24	0.466	1.4385	1.823	0.12	86.40
7	6/27/79	0	26	0.503	1.6353	2.073	0.19	86.46
7	6/27/79	0	28	0.524	1.7443	2.211	0.26	86.53
7	6/27/79	0	30	0.533	1.7910	2.270	0.33	86.61
7	6/27/79	0	32	0.543	1.8378	2.330	0.41	86.69
7	6/27/79	0	34	0.552	1.8859	2.391	0.49	86.76
7	6/27/79	0	36	0.570	1.9878	2.520	0.57	86.85
7	6/27/79	0	38	0.585	2.0728	2.627	0.65	86.93
7	6/27/79	0	40	0.604	2.1747	2.757	0.74	87.02
7	6/27/79	0	42	0.631	2.3376	2.963	0.84	87.12
7	6/27/79	0	44	0.655	2.4848	3.150	0.94	87.22
7	6/27/79	0	46	0.677	2.6108	3.309	1.05	87.33
7	6/27/79	0	48	0.671	2.5768	3.266	1.16	87.44
7	6/27/79	0	50	0.658	2.5032	3.173	1.27	87.54
7	6/27/79	0	52	0.649	2.4480	3.103	1.37	87.65
7	6/27/79	0	54	0.631	2.3376	2.963	1.47	87.75
7	6/27/79	0	56	0.610	2.2087	2.800	1.57	87.84
7	6/27/79	0	58	0.591	2.1068	2.671	1.66	87.94
7	6/27/79	1	0	0.573	2.0048	2.541	1.75	88.02
7	6/27/79	1	2	0.546	1.8533	2.349	1.83	88.10
7	6/27/79	1	4	0.530	1.7755	2.251	1.90	88.18
7	6/27/79	1	6	0.509	1.6664	2.112	1.98	88.25
7	6/27/79	1	8	0.485	1.5404	1.953	2.04	88.32
7	6/27/79	1	10	0.466	1.4385	1.823	2.11	88.38
7	6/27/79	1	12	0.451	1.3535	1.716	2.17	88.44
7	6/27/79	1	14	0.427	1.2176	1.543	2.22	88.50
7	6/27/79	1	16	0.411	1.1327	1.436	2.27	88.55
7	6/27/79	1	18	0.399	1.0647	1.350	2.32	88.59
7	6/27/79	1	20	0.390	1.0137	1.285	2.36	88.64
7	6/27/79	1	22	0.378	0.9458	1.199	2.40	88.68
7	6/27/79	1	24	0.369	0.8948	1.134	2.44	88.72
7	6/27/79	1	26	0.363	0.8614	1.092	2.48	88.75
7	6/27/79	1	31	0.360	0.8450	1.071	2.57	88.84
7	6/27/79	1	35	0.363	0.8614	1.092	2.64	88.92
7	6/27/79	1	40	0.369	0.8948	1.134	2.73	89.01
7	6/27/79	1	44	0.369	0.8948	1.134	2.81	89.09
7	6/27/79	1	50	0.363	0.8614	1.092	2.92	89.20
7	6/27/79	1	54	0.357	0.8285	1.050	2.99	89.27
7	6/27/79	2	0	0.344	0.7629	0.967	3.09	89.37
7	6/27/79	2	12	0.308	0.5632	0.714	3.26	89.54
7	6/27/79	2	20	0.283	0.4870	0.617	3.35	89.63
7	6/27/79	2	30	0.253	0.4061	0.515	3.44	89.72
7	6/27/79	2	42	0.229	0.3455	0.438	3.54	89.82
7	6/27/79	2	50	0.216	0.3160	0.401	3.59	89.87
7	6/27/79	3	2	0.198	0.2747	0.348	3.67	89.95
7	6/27/79	3	12	0.180	0.2345	0.297	3.72	90.00
7	6/27/79	3	20	0.168	0.2095	0.266	3.76	90.04
7	6/27/79	3	32	0.155	0.1846	0.234	3.81	90.09
7	6/27/79	3	44	0.143	0.1623	0.206	3.85	90.13
7	6/27/79	3	50	0.137	0.1515	0.192	3.87	90.15
7	6/27/79	4	0	0.125	0.1300	0.165	3.90	90.18
7	6/27/79	4	8	0.113	0.1119	0.142	3.92	90.20
7	6/27/79	4	17	0.101	0.0949	0.120	3.94	90.22
7	6/27/79	4	26	0.088	0.0784	0.099	3.96	90.24
7	6/27/79	4	34	0.076	0.0637	0.081	3.97	90.25
7	6/27/79	4	44	0.064	0.0490	0.062	3.98	90.26
7	6/27/79	4	54	0.052	0.0360	0.046	3.99	90.27
7	6/27/79	5	4	0.040	0.0235	0.030	4.00	90.28
7	6/27/79	5	10	0.034	0.0173	0.022	4.00	90.28
7	6/27/79	5	16	0.027	0.0127	0.016	4.00	90.28
7	6/27/79	5	23	0.021	0.0099	0.013	4.01	90.28
7	6/27/79	5	30	0.015	0.0071	0.009	4.01	90.28
7	6/27/79	5	39	0.009	0.0042	0.005	4.01	90.28
7	6/27/79	5	44	0.006	0.0028	0.004	4.01	90.29
7	6/27/79	5	51	0.003	0.0014	0.002	4.01	90.29
7	6/27/79	6	0	0.0	0.0	0.0	4.01	90.29
7	7/ 3/79	8	10	0.0	0.0	0.0	0.0	90.29
7	7/ 3/79	8	12	0.113	0.1119	0.142	0.00	90.29
7	7/ 3/79	8	14	0.171	0.2158	0.274	0.01	90.30
7	7/ 3/79	8	16	0.287	0.4955	0.628	0.02	90.31
7	7/ 3/79	8	18	0.326	0.6635	0.841	0.05	90.33
7	7/ 3/79	8	20	0.344	0.7629	0.967	0.08	90.36
7	7/ 3/79	8	22	0.357	0.8285	1.050	0.11	90.40
7	7/ 3/79	8	24	0.363	0.8614	1.092	0.15	90.43
7	7/ 3/79	8	26	0.369	0.8948	1.134	0.19	90.47
7	7/ 3/79	8	28	0.381	0.9628	1.220	0.22	90.51
7	7/ 3/79	8	30	0.405	1.0987	1.393	0.27	90.55
7	7/ 3/79	8	32	0.408	1.1157	1.414	0.31	90.60
7	7/ 3/79	8	34	0.415	1.1497	1.457	0.36	90.65
7	7/ 3/79	8	36	0.424	1.2006	1.522	0.41	90.70
7	7/ 3/79	8	38	0.430	1.2346	1.565	0.46	90.75
7	7/ 3/79	8	40	0.436	1.2686	1.608	0.52	90.80
7	7/ 3/79	8	41	0.442	1.3026	1.651	0.54	90.83
7	7/ 3/79	8	42	0.439	1.2856	1.630	0.57	90.86
7	7/ 3/79	8	44	0.433	1.2516	1.587	0.62	90.91
7	7/ 3/79	8	46	0.427	1.2176	1.543	0.68	90.96
7	7/ 3/79	8	48	0.421	1.1836	1.500	0.73	91.01
7	7/ 3/79	8	50	0.405	1.0987	1.393	0.78	91.06

TABLE D1- 4. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	7/ 3/79	8	52	0.399	1.0647	1.350	0.82	91.11
7	7/ 3/79	8	54	0.393	1.0307	1.307	0.87	91.15
7	7/ 3/79	8	56	0.375	0.9288	1.177	0.91	91.19
7	7/ 3/79	8	58	0.363	0.8614	1.092	0.95	91.23
7	7/ 3/79	9	0	0.354	0.8121	1.029	0.98	91.27
7	7/ 3/79	9	2	0.341	0.7464	0.946	1.01	91.30
7	7/ 3/79	9	4	0.329	0.6802	0.862	1.04	91.33
7	7/ 3/79	9	6	0.320	0.6300	0.799	1.07	91.36
7	7/ 3/79	9	8	0.311	0.5799	0.735	1.10	91.38
7	7/ 3/79	9	10	0.302	0.5380	0.682	1.12	91.41
7	7/ 3/79	9	12	0.293	0.5125	0.650	1.14	91.43
7	7/ 3/79	9	14	0.280	0.4786	0.607	1.16	91.45
7	7/ 3/79	9	16	0.274	0.4616	0.585	1.18	91.47
7	7/ 3/79	9	18	0.271	0.4536	0.575	1.20	91.49
7	7/ 3/79	9	19	0.268	0.4457	0.565	1.21	91.50
7	7/ 3/79	9	21	0.271	0.4536	0.575	1.23	91.52
7	7/ 3/79	9	24	0.283	0.4870	0.617	1.26	91.55
7	7/ 3/79	9	26	0.302	0.5380	0.682	1.28	91.57
7	7/ 3/79	9	28	0.332	0.6969	0.883	1.31	91.59
7	7/ 3/79	9	30	0.424	1.2006	1.522	1.35	91.63
7	7/ 3/79	9	32	0.463	1.4215	1.802	1.40	91.69
7	7/ 3/79	9	34	0.530	1.7755	2.251	1.47	91.76
7	7/ 3/79	9	36	0.568	2.0898	2.649	1.55	91.84
7	7/ 3/79	9	38	0.628	2.3191	2.940	1.65	91.93
7	7/ 3/79	9	40	0.637	2.3744	3.010	1.75	92.03
7	7/ 3/79	9	42	0.655	2.4848	3.150	1.85	92.13
7	7/ 3/79	9	50	0.686	2.6618	3.374	2.28	92.57
7	7/ 3/79	9	56	0.698	2.7297	3.460	2.63	92.91
7	7/ 3/79	10	3	0.683	2.6278	3.331	3.02	93.31
7	7/ 3/79	10	10	0.649	2.4480	3.103	3.40	93.68
7	7/ 3/79	10	15	0.616	2.2455	2.846	3.64	93.93
7	7/ 3/79	10	20	0.573	2.0048	2.541	3.87	94.15
7	7/ 3/79	10	22	0.552	1.8859	2.391	3.95	94.24
7	7/ 3/79	10	24	0.533	1.7910	2.270	4.03	94.31
7	7/ 3/79	10	26	0.515	1.6976	2.152	4.10	94.39
7	7/ 3/79	10	28	0.494	1.5886	2.014	4.17	94.46
7	7/ 3/79	10	30	0.475	1.4895	1.888	4.24	94.52
7	7/ 3/79	10	32	0.457	1.3875	1.759	4.30	94.58
7	7/ 3/79	10	34	0.439	1.2856	1.630	4.35	94.64
7	7/ 3/79	10	36	0.424	1.2006	1.522	4.41	94.69
7	7/ 3/79	10	38	0.415	1.1497	1.457	4.46	94.74
7	7/ 3/79	10	40	0.405	1.0987	1.393	4.50	94.79
7	7/ 3/79	10	42	0.397	0.9968	1.263	4.55	94.83
7	7/ 3/79	10	44	0.372	0.9118	1.156	4.59	94.87
7	7/ 3/79	10	46	0.369	0.8948	1.134	4.63	94.91
7	7/ 3/79	10	48	0.363	0.8614	1.092	4.66	94.95
7	7/ 3/79	10	50	0.357	0.8285	1.050	4.70	94.98
7	7/ 3/79	11	4	0.357	0.8285	1.050	4.94	95.23
7	7/ 3/79	11	15	0.363	0.8614	1.092	5.14	95.43
7	7/ 3/79	11	24	0.363	0.8614	1.092	5.30	95.59
7	7/ 3/79	11	31	0.357	0.8285	1.050	5.43	95.71
7	7/ 3/79	11	39	0.344	0.7629	0.967	5.56	95.85
7	7/ 3/79	11	48	0.326	0.6635	0.841	5.70	95.98
7	7/ 3/79	11	59	0.299	0.5295	0.671	5.84	96.12
7	7/ 3/79	12	5	0.283	0.4870	0.617	5.90	96.19
7	7/ 3/79	12	10	0.271	0.4536	0.575	5.95	96.24
7	7/ 3/79	12	18	0.253	0.4061	0.515	6.03	96.31
7	7/ 3/79	12	30	0.229	0.3455	0.438	6.12	96.41
7	7/ 3/79	12	40	0.216	0.3160	0.401	6.19	96.48
7	7/ 3/79	12	50	0.204	0.2883	0.365	6.25	96.54
7	7/ 3/79	13	2	0.186	0.2475	0.314	6.32	96.61
7	7/ 3/79	13	10	0.174	0.2220	0.281	6.36	96.65
7	7/ 3/79	13	20	0.162	0.1971	0.250	6.41	96.69
7	7/ 3/79	13	32	0.149	0.1730	0.219	6.45	96.74
7	7/ 3/79	13	40	0.143	0.1623	0.206	6.48	96.77
7	7/ 3/79	13	48	0.137	0.1515	0.192	6.51	96.79
7	7/ 3/79	13	55	0.131	0.1407	0.178	6.53	96.81
7	7/ 3/79	14	3	0.125	0.1300	0.165	6.55	96.84
7	7/ 3/79	14	12	0.119	0.1203	0.153	6.58	96.86
7	7/ 3/79	18	36	0.024	0.0113	0.014	6.94	97.23
7	7/ 3/79	22	26	0.076	0.0637	0.081	7.13	97.41
7	7/ 4/79	8	0	0.024	0.0113	0.014	7.58	97.87
7	7/ 4/79	11	0	0.006	0.0028	0.004	7.61	97.89
7	7/ 4/79	14	0	0.0	0.0	0.0	7.61	97.90
7	7/14/79	0	50	0.0	0.0	0.0	0.0	97.90
7	7/14/79	1	0	0.113	0.1119	0.142	0.01	97.91
7	7/14/79	1	6	0.113	0.1119	0.142	0.03	97.92
7	7/14/79	1	8	0.128	0.1354	0.172	0.03	97.93
7	7/14/79	1	10	0.146	0.1676	0.212	0.04	97.94
7	7/14/79	1	12	0.177	0.2282	0.289	0.05	97.94
7	7/14/79	1	14	0.216	0.3160	0.401	0.06	97.96
7	7/14/79	1	16	0.265	0.4378	0.555	0.07	97.97
7	7/14/79	1	18	0.320	0.6300	0.799	0.10	97.99
7	7/14/79	1	20	0.360	0.8450	1.071	0.13	98.02
7	7/14/79	1	22	0.402	1.0817	1.371	0.17	98.07
7	7/14/79	1	24	0.415	1.1497	1.457	0.21	98.11
7	7/14/79	1	26	0.421	1.1836	1.500	0.26	98.16
7	7/14/79	1	28	0.427	1.2176	1.543	0.31	98.21
7	7/14/79	1	30	0.424	1.2006	1.522	0.37	98.26
7	7/14/79	1	34	0.415	1.1497	1.457	0.47	98.36
7	7/14/79	1	39	0.408	1.1157	1.414	0.59	98.48
7	7/14/79	1	42	0.411	1.1327	1.436	0.66	98.55
7	7/14/79	1	47	0.430	1.2346	1.565	0.78	98.68
7	7/14/79	1	50	0.454	1.3705	1.737	0.86	98.76
7	7/14/79	1	52	0.469	1.4555	1.845	0.92	98.82
7	7/14/79	1	54	0.482	1.5234	1.931	0.99	98.88
7	7/14/79	1	59	0.497	1.6041	2.033	1.15	99.05
7	7/14/79	2	5	0.479	1.5065	1.910	1.35	99.25
7	7/14/79	2	12	0.448	1.3366	1.694	1.56	99.46
7	7/14/79	2	16	0.430	1.2346	1.565	1.67	99.57
7	7/14/79	2	22	0.411	1.1327	1.436	1.82	99.72
7	7/14/79	2	27	0.405	1.0987	1.393	1.94	99.83

TABLE D1- 4. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	7/14/79	2	33	0.393	1.0307	1.307	2.07	99.97
7	7/14/79	2	39	0.369	0.8948	1.134	2.19	100.09
7	7/14/79	2	47	0.338	0.7300	0.925	2.33	100.23
7	7/14/79	2	54	0.311	0.5799	0.735	2.43	100.32
7	7/14/79	3	0	0.290	0.5040	0.639	2.50	100.39
7	7/14/79	3	6	0.277	0.4701	0.596	2.56	100.45
7	7/14/79	3	10	0.274	0.4616	0.585	2.60	100.49
7	7/14/79	3	30	0.274	0.4616	0.585	2.79	100.69
7	7/14/79	3	39	0.265	0.4378	0.555	2.88	100.77
7	7/14/79	3	51	0.241	0.3749	0.475	2.98	100.88
7	7/14/79	4	0	0.223	0.3307	0.419	3.05	100.94
7	7/14/79	4	15	0.192	0.2611	0.331	3.14	101.04
7	7/14/79	4	29	0.171	0.2158	0.274	3.21	101.11
7	7/14/79	4	43	0.155	0.1846	0.234	3.27	101.17
7	7/14/79	4	51	0.149	0.1730	0.219	3.30	101.20
7	7/14/79	5	0	0.143	0.1623	0.206	3.33	101.23
7	7/14/79	5	14	0.131	0.1407	0.178	3.38	101.28
7	7/14/79	5	30	0.116	0.1161	0.147	3.42	101.32
7	7/14/79	5	50	0.101	0.0949	0.120	3.47	101.36
7	7/14/79	9	0	0.055	0.0391	0.050	3.73	101.63
7	7/14/79	12	0	0.018	0.0085	0.011	3.82	101.72
7	7/14/79	13	0	0.009	0.0042	0.005	3.83	101.73
7	7/14/79	14	0	0.003	0.0014	0.002	3.84	101.73
7	7/14/79	15	0	0.0	0.0	0.0	3.84	101.73
7	8/21/79	19	0	0.0	0.0	0.0	0.0	101.73
7	8/21/79	19	42	0.119	0.1203	0.153	0.05	101.79
7	8/21/79	19	50	0.131	0.1407	0.178	0.08	101.81
7	8/21/79	19	56	0.137	0.1515	0.192	0.09	101.83
7	8/21/79	20	3	0.140	0.1569	0.199	0.12	101.85
7	8/21/79	20	11	0.137	0.1515	0.192	0.14	101.88
7	8/21/79	20	19	0.131	0.1407	0.178	0.17	101.90
7	8/21/79	20	25	0.125	0.1300	0.165	0.18	101.92
7	8/21/79	20	33	0.119	0.1203	0.153	0.21	101.94
7	8/21/79	20	40	0.110	0.1076	0.136	0.22	101.96
7	8/21/79	20	49	0.119	0.1203	0.153	0.24	101.98
7	8/21/79	20	56	0.125	0.1300	0.165	0.26	102.00
7	8/21/79	21	4	0.131	0.1407	0.178	0.29	102.02
7	8/21/79	21	11	0.134	0.1461	0.185	0.31	102.04
7	8/21/79	21	24	0.134	0.1461	0.185	0.35	102.08
7	8/21/79	21	33	0.131	0.1407	0.178	0.37	102.11
7	8/21/79	21	42	0.125	0.1300	0.165	0.40	102.13
7	8/21/79	21	51	0.119	0.1203	0.153	0.42	102.16
7	8/22/79	2	0	0.061	0.0453	0.057	0.86	102.59
7	8/22/79	8	0	0.015	0.0071	0.009	1.06	102.79
7	8/22/79	11	0	0.003	0.0014	0.002	1.07	102.81
7	8/22/79	12	0	0.0	0.0	0.0	1.08	102.81
7	8/19/79	6	0	0.0	0.0	0.0	0.0	102.81
7	8/19/79	7	0	0.076	0.0637	0.081	0.04	102.85
7	8/19/79	8	0	0.061	0.0453	0.057	0.11	102.92
7	8/19/79	12	0	0.0	0.0	0.0	0.22	103.04
7	8/19/79	22	0	0.0	0.0	0.0	0.0	103.04
7	8/19/79	23	0	0.061	0.0453	0.057	0.03	103.06
7	8/20/79	6	0	0.0	0.0	0.0	0.23	103.26
7	10/22/79	4	58	0.0	0.0	0.0	0.0	103.26
7	10/22/79	5	3	0.034	0.0173	0.022	0.00	103.27
7	10/22/79	5	11	0.037	0.0204	0.026	0.00	103.27
7	10/22/79	5	19	0.043	0.0266	0.034	0.01	103.27
7	10/22/79	5	27	0.049	0.0328	0.042	0.01	103.28
7	10/22/79	5	43	0.055	0.0391	0.050	0.03	103.29
7	10/22/79	5	55	0.058	0.0422	0.053	0.04	103.30
7	10/22/79	6	7	0.061	0.0453	0.057	0.05	103.31
7	10/22/79	6	13	0.067	0.0527	0.067	0.05	103.32
7	10/22/79	6	21	0.073	0.0600	0.076	0.06	103.33
7	10/22/79	6	29	0.079	0.0674	0.085	0.07	103.34
7	10/22/79	6	33	0.085	0.0748	0.095	0.08	103.34
7	10/22/79	6	37	0.091	0.0821	0.104	0.09	103.35
7	10/22/79	6	41	0.098	0.0906	0.115	0.09	103.36
7	10/22/79	6	47	0.104	0.0991	0.126	0.11	103.37
7	10/22/79	6	51	0.110	0.1076	0.136	0.11	103.38
7	10/22/79	6	57	0.116	0.1161	0.147	0.13	103.39
7	10/22/79	7	1	0.122	0.1246	0.158	0.14	103.40
7	10/22/79	7	6	0.128	0.1354	0.172	0.15	103.42
7	10/22/79	7	11	0.134	0.1461	0.185	0.17	103.43
7	10/22/79	7	13	0.140	0.1569	0.199	0.17	103.44
7	10/22/79	7	20	0.143	0.1623	0.206	0.20	103.46
7	10/22/79	7	24	0.146	0.1676	0.212	0.21	103.48
7	10/22/79	7	33	0.152	0.1784	0.226	0.24	103.51
7	10/22/79	7	44	0.155	0.1846	0.234	0.29	103.55
7	10/22/79	7	54	0.158	0.1909	0.242	0.33	103.59
7	10/22/79	8	5	0.165	0.2033	0.258	0.37	103.64
7	10/22/79	8	23	0.171	0.2158	0.274	0.45	103.72
7	10/22/79	8	37	0.174	0.2220	0.281	0.52	103.78
7	10/22/79	9	1	0.177	0.2282	0.289	0.63	103.89
7	10/22/79	9	17	0.177	0.2282	0.289	0.71	103.97
7	10/22/79	9	35	0.174	0.2220	0.281	0.79	104.06
7	10/22/79	9	49	0.171	0.2158	0.274	0.86	104.12
7	10/22/79	10	1	0.168	0.2095	0.266	0.91	104.18
7	10/22/79	10	16	0.165	0.2033	0.258	0.98	104.24
7	10/22/79	10	57	0.168	0.2095	0.266	1.16	104.42
7	10/22/79	11	7	0.171	0.2158	0.274	1.20	104.46
7	10/22/79	11	16	0.177	0.2282	0.289	1.24	104.51
7	10/22/79	11	23	0.183	0.2407	0.305	1.28	104.54
7	10/22/79	11	31	0.189	0.2543	0.322	1.32	104.58
7	10/22/79	11	39	0.195	0.2679	0.340	1.36	104.63
7	10/22/79	11	47	0.201	0.2815	0.357	1.41	104.67
7	10/22/79	11	52	0.207	0.2951	0.374	1.44	104.70

TABLE D1- 4. CONCLUDED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	10/22/79	11	57	0.213	0.3087	0.391	1.47	104.74
7	10/22/79	12	1	0.219	0.3234	0.410	1.50	104.76
7	10/22/79	12	7	0.226	0.3381	0.429	1.54	104.81
7	10/22/79	12	15	0.232	0.3528	0.447	1.60	104.86
7	10/22/79	12	24	0.238	0.3676	0.466	1.67	104.93
7	10/22/79	12	28	0.244	0.3823	0.485	1.70	104.96
7	10/22/79	12	37	0.262	0.4298	0.545	1.78	105.04
7	10/22/79	12	41	0.274	0.4616	0.585	1.81	105.08
7	10/22/79	12	50	0.280	0.4786	0.607	1.90	105.17
7	10/22/79	13	0	0.274	0.4616	0.585	2.00	105.27
7	10/22/79	13	5	0.268	0.4457	0.565	2.05	105.32
7	10/22/79	13	11	0.262	0.4298	0.545	2.11	105.37
7	10/22/79	13	19	0.250	0.3981	0.505	2.18	105.44
7	10/22/79	13	28	0.244	0.3823	0.485	2.25	105.51
7	10/22/79	13	37	0.238	0.3676	0.466	2.32	105.59
7	10/22/79	13	49	0.232	0.3528	0.447	2.41	105.68
7	10/22/79	14	1	0.226	0.3381	0.429	2.50	105.76
7	10/22/79	14	15	0.219	0.3234	0.410	2.60	105.86
7	10/22/79	14	32	0.213	0.3087	0.391	2.71	105.98
7	10/22/79	13	52	0.207	0.2951	0.374	2.46	105.72
7	10/22/79	15	13	0.201	0.2815	0.357	2.95	106.21
7	10/22/79	15	41	0.195	0.2679	0.340	3.11	106.38
7	10/22/79	16	7	0.189	0.2543	0.322	3.26	106.52
7	10/22/79	16	23	0.183	0.2407	0.305	3.34	106.60
7	10/22/79	16	51	0.177	0.2282	0.289	3.48	106.74
7	10/22/79	17	12	0.171	0.2158	0.274	3.58	106.84
7	10/22/79	17	37	0.165	0.2033	0.258	3.69	106.95
7	10/22/79	18	12	0.158	0.1909	0.242	3.83	107.10
7	10/22/79	18	50	0.152	0.1784	0.226	3.98	107.25
7	10/22/79	19	30	0.146	0.1676	0.212	4.13	107.39
7	10/22/79	20	41	0.140	0.1569	0.199	4.37	107.64
7	10/22/79	22	26	0.134	0.1461	0.185	4.71	107.97
7	10/23/79	0	18	0.128	0.1354	0.172	5.04	108.30
7	10/23/79	1	52	0.122	0.1246	0.158	5.30	108.56
7	10/23/79	3	11	0.116	0.1161	0.147	5.50	108.76
7	10/23/79	4	10	0.110	0.1076	0.136	5.64	108.90
7	10/23/79	5	37	0.104	0.0991	0.126	5.83	109.09
7	10/23/79	7	4	0.098	0.0906	0.115	6.00	109.27
7	10/23/79	8	34	0.091	0.0821	0.104	6.17	109.43
7	10/23/79	10	4	0.085	0.0748	0.095	6.32	109.58
7	10/23/79	12	35	0.079	0.0674	0.085	6.54	109.81
7	10/23/79	14	48	0.073	0.0600	0.076	6.72	109.99
7	10/23/79	16	36	0.067	0.0527	0.067	6.85	110.11
7	10/23/79	20	30	0.061	0.0453	0.057	7.09	110.36
7	10/24/79	2	38	0.055	0.0391	0.050	7.42	110.68
7	10/24/79	7	0	0.049	0.0328	0.042	7.62	110.88
7	10/24/79	12	45	0.043	0.0266	0.034	7.84	111.10
7	10/24/79	17	38	0.037	0.0204	0.026	7.98	111.25
7	10/24/79	21	0	0.027	0.0127	0.016	8.05	111.32
7	10/24/79	24	0	0.018	0.0085	0.011	8.09	111.36
7	10/25/79	3	0	0.009	0.0042	0.005	8.12	111.38
7	10/25/79	6	0	0.0	0.0	0.0	8.13	111.39

TABLE D1- 5. FOUR MILE CREEK WATERSHED RUNOFF DATA FOR 1979 SITE B

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
B	3/16/79	14	0	0.0	0.0	0.0	0.0	0.0
B	3/16/79	15	0	0.003	0.0088	0.021	0.01	0.01
B	3/17/79	7	20	0.006	0.0176	0.042	0.53	0.53
B	3/17/79	11	48	0.006	0.0176	0.042	0.72	0.72
B	3/17/79	12	15	0.009	0.0263	0.064	0.74	0.74
B	3/17/79	12	36	0.012	0.0351	0.085	0.77	0.77
B	3/17/79	12	48	0.012	0.0351	0.085	0.79	0.79
B	3/17/79	12	56	0.015	0.0439	0.106	0.80	0.80
B	3/17/79	13	17	0.018	0.0527	0.127	0.84	0.84
B	3/17/79	13	32	0.021	0.0614	0.148	0.87	0.87
B	3/17/79	13	40	0.021	0.0614	0.148	0.89	0.89
B	3/17/79	13	45	0.024	0.0702	0.170	0.91	0.91
B	3/17/79	13	47	0.027	0.0790	0.191	0.91	0.91
B	3/17/79	13	56	0.030	0.0878	0.212	0.94	0.94
B	3/17/79	13	58	0.024	0.0702	0.170	0.95	0.95
B	3/17/79	14	6	0.021	0.0614	0.148	0.97	0.97
B	3/17/79	14	13	0.024	0.0702	0.170	0.99	0.99
B	3/17/79	14	22	0.027	0.0790	0.191	1.02	1.02
B	3/17/79	14	26	0.030	0.0878	0.212	1.03	1.03
B	3/17/79	14	34	0.034	0.1045	0.252	1.06	1.06
B	3/17/79	14	40	0.037	0.1212	0.293	1.09	1.09
B	3/17/79	14	54	0.040	0.1379	0.333	1.16	1.16
B	3/17/79	15	16	0.043	0.1546	0.374	1.29	1.29
B	3/17/79	15	39	0.043	0.1546	0.374	1.43	1.43
B	3/17/79	15	59	0.046	0.1713	0.414	1.57	1.57
B	3/17/79	16	14	0.046	0.1713	0.414	1.67	1.67
B	3/17/79	17	3	0.043	0.1546	0.374	1.99	1.99
B	3/17/79	17	10	0.040	0.1379	0.333	2.03	2.03
B	3/17/79	17	16	0.043	0.1546	0.374	2.07	2.07
B	3/17/79	17	22	0.040	0.1379	0.333	2.10	2.10
B	3/17/79	17	56	0.037	0.1212	0.293	2.28	2.28
B	3/17/79	18	44	0.034	0.1045	0.252	2.50	2.50
B	3/17/79	18	52	0.034	0.1045	0.252	2.53	2.53
B	3/17/79	19	3	0.037	0.1212	0.293	2.58	2.58
B	3/17/79	19	15	0.040	0.1379	0.333	2.64	2.64
B	3/17/79	19	20	0.043	0.1546	0.374	2.67	2.67
B	3/17/79	19	54	0.046	0.1713	0.414	2.90	2.90
B	3/17/79	20	25	0.049	0.1880	0.454	3.12	3.12
B	3/17/79	20	35	0.049	0.1880	0.454	3.20	3.20
B	3/17/79	20	43	0.052	0.2047	0.495	3.26	3.26
B	3/17/79	20	49	0.052	0.2047	0.495	3.31	3.31
B	3/17/79	20	56	0.049	0.1880	0.454	3.36	3.36
B	3/17/79	21	6	0.049	0.1880	0.454	3.44	3.44
B	3/17/79	21	22	0.052	0.2047	0.495	3.57	3.57
B	3/17/79	22	9	0.052	0.2047	0.495	3.95	3.95
B	3/17/79	22	28	0.055	0.2214	0.535	4.12	4.12
B	3/17/79	23	3	0.058	0.2381	0.575	4.44	4.44
B	3/17/79	23	22	0.061	0.2549	0.616	4.63	4.63
B	3/17/79	23	24	0.064	0.2772	0.670	4.65	4.65
B	3/17/79	23	30	0.064	0.2772	0.670	4.72	4.72
B	3/17/79	23	41	0.061	0.2549	0.616	4.84	4.84
B	3/17/79	23	44	0.058	0.2381	0.575	4.87	4.87
B	3/18/79	0	26	0.058	0.2381	0.575	5.27	5.27
B	3/18/79	0	29	0.055	0.2214	0.535	5.30	5.30
B	3/18/79	0	42	0.055	0.2214	0.535	5.41	5.41
B	3/18/79	1	5	0.052	0.2047	0.495	5.61	5.61
B	3/18/79	1	32	0.049	0.1880	0.454	5.82	5.82
B	3/18/79	2	7	0.049	0.1880	0.454	6.09	6.09
B	3/18/79	2	46	0.052	0.2047	0.495	6.40	6.40
B	3/18/79	2	52	0.055	0.2214	0.535	6.45	6.45
B	3/18/79	3	0	0.058	0.2381	0.575	6.52	6.52
B	3/18/79	3	16	0.061	0.2549	0.616	6.68	6.68
B	3/18/79	3	20	0.064	0.2772	0.670	6.72	6.72
B	3/18/79	3	27	0.067	0.2996	0.724	6.81	6.81
B	3/18/79	3	28	0.070	0.3220	0.778	6.82	6.82
B	3/18/79	3	32	0.073	0.3443	0.832	6.87	6.87
B	3/18/79	3	41	0.076	0.3667	0.886	7.00	7.00
B	3/18/79	3	48	0.079	0.3891	0.940	7.11	7.11
B	3/18/79	3	50	0.082	0.4114	0.994	7.14	7.14
B	3/18/79	3	52	0.085	0.4338	1.048	7.17	7.17
B	3/18/79	3	58	0.088	0.4562	1.102	7.28	7.28
B	3/18/79	4	2	0.091	0.4786	1.156	7.36	7.36
B	3/18/79	4	4	0.094	0.5060	1.223	7.40	7.40
B	3/18/79	4	6	0.098	0.5335	1.289	7.44	7.44
B	3/18/79	4	12	0.098	0.5335	1.289	7.57	7.57
B	3/18/79	4	15	0.101	0.5610	1.355	7.63	7.63
B	3/18/79	4	21	0.104	0.5884	1.422	7.77	7.77
B	3/18/79	4	27	0.101	0.5610	1.355	7.91	7.91
B	3/18/79	4	31	0.098	0.5335	1.289	8.00	8.00
B	3/18/79	4	36	0.094	0.5060	1.223	8.10	8.10
B	3/18/79	4	42	0.091	0.4786	1.156	8.22	8.22
B	3/18/79	4	47	0.094	0.5060	1.223	8.32	8.32
B	3/18/79	4	54	0.094	0.5060	1.223	8.46	8.46
B	3/18/79	4	55	0.091	0.4786	1.156	8.48	8.48
B	3/18/79	5	1	0.088	0.4562	1.102	8.60	8.60
B	3/18/79	5	9	0.085	0.4338	1.048	8.74	8.74
B	3/18/79	5	19	0.085	0.4338	1.048	8.91	8.91
B	3/18/79	5	21	0.082	0.4114	0.994	8.95	8.95
B	3/18/79	5	25	0.085	0.4338	1.048	9.02	9.02
B	3/18/79	5	30	0.082	0.4114	0.994	9.10	9.10
B	3/18/79	5	46	0.079	0.3891	0.940	9.36	9.36
B	3/18/79	5	52	0.076	0.3667	0.886	9.45	9.45
B	3/18/79	5	54	0.073	0.3443	0.832	9.48	9.48
B	3/18/79	6	8	0.073	0.3443	0.832	9.67	9.67
B	3/18/79	6	10	0.067	0.2996	0.724	9.70	9.70
B	3/18/79	6	16	0.064	0.2772	0.670	9.77	9.77
B	3/18/79	6	22	0.061	0.2549	0.616	9.83	9.83
B	3/18/79	6	34	0.061	0.2549	0.616	9.96	9.96
B	3/18/79	6	42	0.058	0.2381	0.575	10.04	10.04
B	3/18/79	7	6	0.055	0.2214	0.535	10.26	10.26
B	3/18/79	7	29	0.055	0.2214	0.535	10.46	10.46
B	3/18/79	7	31	0.052	0.2047	0.495	10.48	10.48
B	3/18/79	7	32	0.049	0.1880	0.454	10.49	10.49
B	3/18/79	7	35	0.049	0.1880	0.454	10.51	10.51

TABLE D1- 5. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	3/18/79	7	37	0.046	0.1713	3.414	10.53	10.53
8	3/18/79	7	48	0.049	0.1880	0.454	10.61	10.61
8	3/18/79	8	5	0.052	0.2047	0.495	10.74	10.74
8	3/18/79	8	7	0.049	0.1880	0.454	10.76	10.76
8	3/18/79	8	8	0.043	0.1546	0.374	10.76	10.76
8	3/18/79	8	20	0.046	0.1713	0.414	10.84	10.84
8	3/18/79	8	23	0.049	0.1880	0.454	10.86	10.86
8	3/18/79	8	25	0.052	0.2047	0.495	10.88	10.88
8	3/18/79	8	27	0.055	0.2214	0.535	10.90	10.90
8	3/18/79	8	28	0.058	0.2381	0.575	10.90	10.90
8	3/18/79	8	30	0.061	0.2549	0.616	10.92	10.92
8	3/18/79	8	39	0.064	0.2772	0.670	11.02	11.02
8	3/18/79	8	43	0.067	0.2996	0.724	11.07	11.07
8	3/18/79	8	53	0.064	0.2772	0.670	11.18	11.18
8	3/18/79	8	59	0.061	0.2549	0.616	11.25	11.25
8	3/18/79	9	1	0.058	0.2381	0.575	11.27	11.27
8	3/18/79	9	4	0.061	0.2549	0.616	11.30	11.30
8	3/18/79	9	5	0.064	0.2772	0.670	11.31	11.31
8	3/18/79	9	8	0.067	0.2996	0.724	11.34	11.34
8	3/18/79	9	12	0.067	0.2996	0.724	11.39	11.39
8	3/18/79	9	17	0.064	0.2772	0.670	11.45	11.45
8	3/18/79	9	33	0.064	0.2772	0.670	11.63	11.63
8	3/18/79	9	38	0.067	0.2996	0.724	11.69	11.69
8	3/18/79	10	7	0.070	0.3220	0.778	12.05	12.05
8	3/18/79	10	16	0.073	0.3443	0.832	12.17	12.17
8	3/18/79	10	22	0.076	0.3667	0.886	12.26	12.26
8	3/18/79	10	26	0.079	0.3891	0.940	12.32	12.32
8	3/18/79	10	31	0.076	0.3667	0.886	12.39	12.39
8	3/18/79	10	37	0.073	0.3443	0.832	12.48	12.48
8	3/18/79	10	43	0.076	0.3667	0.886	12.56	12.56
8	3/18/79	10	46	0.079	0.3891	0.940	12.61	12.61
8	3/18/79	10	50	0.082	0.4114	0.994	12.67	12.67
8	3/18/79	10	58	0.085	0.4338	1.048	12.81	12.81
8	3/18/79	11	3	0.085	0.4338	1.048	12.90	12.90
8	3/18/79	11	20	0.091	0.4786	1.156	13.21	13.21
8	3/18/79	11	24	0.110	0.6434	1.554	13.30	13.30
8	3/18/79	11	33	0.104	0.5884	1.422	13.52	13.52
8	3/18/79	11	39	0.098	0.5335	1.289	13.66	13.66
8	3/18/79	11	42	0.094	0.5060	1.223	13.72	13.72
8	3/18/79	11	43	0.098	0.5335	1.289	13.74	13.74
8	3/18/79	11	44	0.104	0.5884	1.422	13.77	13.77
8	3/18/79	11	45	0.107	0.6159	1.488	13.79	13.79
8	3/18/79	11	46	0.110	0.6434	1.554	13.82	13.82
8	3/18/79	11	48	0.107	0.6159	1.488	13.87	13.87
8	3/18/79	11	50	0.104	0.5884	1.422	13.91	13.91
8	3/18/79	11	53	0.101	0.5610	1.355	13.98	13.98
8	3/18/79	11	55	0.098	0.5335	1.289	14.03	14.03
8	3/18/79	11	57	0.143	0.9792	2.366	14.09	14.09
8	3/18/79	11	58	0.140	0.9469	2.288	14.13	14.13
8	3/18/79	12	0	0.134	0.8824	2.132	14.20	14.20
8	3/18/79	12	2	0.131	0.8501	2.054	14.27	14.27
8	3/18/79	12	5	0.125	0.7855	1.898	14.37	14.37
8	3/18/79	12	7	0.122	0.7532	1.820	14.43	14.43
8	3/18/79	12	8	0.119	0.7258	1.754	14.46	14.46
8	3/18/79	12	10	0.116	0.6983	1.687	14.52	14.52
8	3/18/79	12	13	0.110	0.6434	1.554	14.60	14.60
8	3/18/79	12	15	0.104	0.5884	1.422	14.65	14.65
8	3/18/79	12	16	0.098	0.5335	1.289	14.67	14.67
8	3/18/79	12	18	0.088	0.4562	1.102	14.71	14.71
8	3/18/79	12	20	0.079	0.3891	0.940	14.75	14.75
8	3/18/79	12	21	0.076	0.3667	0.886	14.76	14.76
8	3/18/79	12	23	0.073	0.3443	0.832	14.79	14.79
8	3/18/79	12	29	0.076	0.3667	0.886	14.88	14.88
8	3/18/79	12	30	0.082	0.4114	0.994	14.89	14.89
8	3/18/79	12	31	0.091	0.4786	1.156	14.91	14.91
8	3/18/79	12	33	0.098	0.5335	1.289	14.95	14.95
8	3/18/79	12	56	0.101	0.5610	1.355	15.46	15.46
8	3/18/79	13	30	0.101	0.5610	1.355	16.23	16.23
8	3/18/79	13	48	0.098	0.5335	1.289	16.62	16.62
8	3/18/79	14	9	0.094	0.5060	1.223	17.06	17.06
8	3/18/79	14	28	0.091	0.4786	1.156	17.44	17.44
8	3/18/79	14	58	0.088	0.4562	1.102	18.00	18.00
8	3/18/79	15	0	0.091	0.4786	1.156	18.04	18.04
8	3/18/79	15	2	0.098	0.5335	1.289	18.08	18.08
8	3/18/79	15	7	0.098	0.5335	1.289	18.19	18.19
8	3/18/79	15	9	0.091	0.4786	1.156	18.23	18.23
8	3/18/79	15	20	0.088	0.4562	1.102	18.44	18.44
8	3/18/79	15	53	0.091	0.4786	1.156	19.06	19.06
8	3/18/79	16	5	0.094	0.5060	1.223	19.30	19.30
8	3/18/79	16	18	0.098	0.5335	1.289	19.57	19.57
8	3/18/79	16	31	0.101	0.5610	1.355	19.85	19.85
8	3/18/79	16	50	0.104	0.5884	1.422	20.29	20.29
8	3/18/79	17	8	0.107	0.6159	1.488	20.73	20.73
8	3/18/79	17	25	0.107	0.6159	1.488	21.15	21.15
8	3/18/79	17	31	0.104	0.5884	1.422	21.30	21.30
8	3/18/79	18	19	0.101	0.5610	1.355	22.41	22.41
8	3/18/79	19	25	0.098	0.5335	1.289	23.86	23.86
8	3/18/79	19	38	0.094	0.5060	1.223	24.13	24.13
8	3/18/79	19	55	0.091	0.4786	1.156	24.47	24.47
8	3/18/79	20	21	0.088	0.4562	1.102	24.96	24.96
8	3/18/79	20	38	0.085	0.4338	1.048	25.26	25.26
8	3/18/79	20	52	0.082	0.4114	0.994	25.50	25.50
8	3/18/79	21	10	0.079	0.3891	0.940	25.79	25.79
8	3/18/79	21	43	0.076	0.3667	0.886	26.30	26.30
8	3/18/79	22	7	0.073	0.3443	0.832	26.64	26.64
8	3/18/79	22	26	0.070	0.3220	0.778	26.89	26.89
8	3/18/79	23	0	0.067	0.2996	0.724	27.32	27.32
8	3/19/79	2	0	0.067	0.2996	0.724	29.49	29.49
8	3/19/79	3	2	0.064	0.2772	0.670	30.21	30.21
8	3/19/79	4	4	0.061	0.2549	0.616	30.88	30.88
8	3/19/79	5	13	0.058	0.2381	0.575	31.56	31.56
8	3/19/79	6	4	0.055	0.2214	0.535	32.03	32.03
8	3/19/79	7	22	0.052	0.2047	0.495	32.70	32.70
8	3/19/79	9	3	0.049	0.1880	0.454	33.50	33.50

TABLE DI- 5. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	3/19/79	11	43	0.046	0.1713	0.414	34.66	34.66
8	3/19/79	14	16	0.043	0.1546	0.374	35.66	35.66
8	3/19/79	14	46	0.040	0.1379	0.333	35.84	35.84
8	3/19/79	15	10	0.037	0.1212	0.293	35.96	35.96
8	3/19/79	16	20	0.034	0.1045	0.252	36.28	36.28
8	3/19/79	16	38	0.030	0.0878	0.212	36.35	36.35
8	3/19/79	17	56	0.027	0.0790	0.191	36.61	36.61
8	3/19/79	18	30	0.024	0.0702	0.170	36.72	36.72
8	3/19/79	18	59	0.021	0.0614	0.148	36.79	36.79
8	3/19/79	19	40	0.018	0.0527	0.127	36.89	36.89
8	3/19/79	20	36	0.015	0.0439	0.106	37.00	37.00
8	3/19/79	20	52	0.012	0.0351	0.085	37.02	37.02
8	3/19/79	20	54	0.006	0.0176	0.042	37.02	37.02
8	3/19/79	22	51	0.003	0.0088	0.021	37.08	37.08
8	3/20/79	15	0	0.0	0.0	0.0	37.26	37.26
8	3/23/79	7	50	0.0	0.0	0.0	0.0	37.26
8	3/23/79	8	30	0.003	0.0088	0.021	0.01	37.26
8	3/23/79	9	13	0.006	0.0176	0.042	0.03	37.29
8	3/23/79	10	4	0.009	0.0263	0.064	0.07	37.33
8	3/23/79	10	44	0.012	0.0351	0.085	0.12	37.38
8	3/23/79	11	32	0.015	0.0439	0.106	0.20	37.46
8	3/23/79	12	38	0.012	0.0351	0.085	0.31	37.56
8	3/23/79	13	8	0.009	0.0263	0.064	0.34	37.60
8	3/23/79	13	51	0.006	0.0176	0.042	0.38	37.64
8	3/23/79	14	19	0.006	0.0176	0.042	0.40	37.66
8	3/23/79	14	52	0.009	0.0263	0.064	0.43	37.69
8	3/23/79	15	16	0.012	0.0351	0.085	0.46	37.72
8	3/23/79	15	22	0.012	0.0351	0.085	0.47	37.72
8	3/23/79	15	36	0.009	0.0263	0.064	0.49	37.74
8	3/23/79	15	47	0.006	0.0176	0.042	0.50	37.75
8	3/23/79	16	20	0.003	0.0088	0.021	0.51	37.77
8	3/23/79	21	50	0.0	0.0	0.0	0.57	37.83
8	3/28/79	13	30	0.0	0.0	0.0	0.0	37.83
8	3/28/79	13	40	0.006	0.0176	0.042	0.00	37.83
8	3/28/79	14	36	0.006	0.0176	0.042	0.04	37.87
8	3/28/79	15	4	0.009	0.0263	0.064	0.07	37.89
8	3/28/79	15	41	0.012	0.0351	0.085	0.11	37.94
8	3/28/79	15	45	0.015	0.0439	0.106	0.12	37.95
8	3/28/79	15	51	0.018	0.0527	0.127	0.13	37.96
8	3/28/79	16	10	0.018	0.0527	0.127	0.17	38.00
8	3/28/79	17	40	0.015	0.0439	0.106	0.35	38.17
8	3/28/79	18	8	0.012	0.0351	0.085	0.39	38.22
8	3/28/79	18	36	0.009	0.0263	0.064	0.43	38.25
8	3/28/79	19	12	0.006	0.0176	0.042	0.46	38.28
8	3/28/79	19	40	0.006	0.0176	0.042	0.48	38.30
8	3/28/79	20	25	0.003	0.0088	0.021	0.50	38.33
8	3/28/79	21	30	0.0	0.0	0.0	0.51	38.34
8	3/29/79	5	32	0.003	0.0088	0.021	0.60	38.42
8	3/29/79	6	26	0.006	0.0176	0.042	0.63	38.45
8	3/29/79	6	30	0.009	0.0263	0.064	0.63	38.46
8	3/29/79	6	35	0.012	0.0351	0.085	0.64	38.46
8	3/29/79	6	39	0.015	0.0439	0.106	0.64	38.47
8	3/29/79	6	45	0.018	0.0527	0.127	0.65	38.48
8	3/29/79	6	55	0.021	0.0614	0.148	0.68	38.50
8	3/29/79	7	2	0.024	0.0702	0.170	0.70	38.52
8	3/29/79	7	7	0.027	0.0790	0.191	0.71	38.54
8	3/29/79	7	14	0.030	0.0878	0.212	0.73	38.56
8	3/29/79	7	16	0.034	0.1045	0.252	0.74	38.57
8	3/29/79	7	18	0.037	0.1212	0.293	0.75	38.58
8	3/29/79	7	19	0.040	0.1379	0.333	0.76	38.58
8	3/29/79	7	28	0.043	0.1546	0.374	0.81	38.64
8	3/29/79	7	55	0.043	0.1546	0.374	0.98	38.80
8	3/29/79	8	5	0.040	0.1379	0.333	1.04	38.86
8	3/29/79	8	14	0.040	0.1379	0.333	1.09	38.91
8	3/29/79	8	20	0.043	0.1546	0.374	1.12	38.95
8	3/29/79	8	24	0.046	0.1713	0.414	1.15	38.97
8	3/29/79	8	30	0.046	0.1713	0.414	1.19	39.02
8	3/29/79	8	36	0.049	0.1880	0.454	1.23	39.06
8	3/29/79	8	39	0.052	0.2047	0.495	1.26	39.08
8	3/29/79	8	42	0.055	0.2214	0.535	1.28	39.11
8	3/29/79	8	47	0.058	0.2381	0.575	1.33	39.16
8	3/29/79	8	49	0.061	0.2549	0.616	1.35	39.18
8	3/29/79	8	52	0.064	0.2772	0.670	1.38	39.21
8	3/29/79	8	55	0.067	0.2996	0.724	1.42	39.24
8	3/29/79	8	57	0.070	0.3220	0.778	1.44	39.27
8	3/29/79	8	58	0.067	0.2996	0.724	1.45	39.28
8	3/29/79	9	0	0.064	0.2772	0.670	1.48	39.30
8	3/29/79	9	3	0.067	0.2996	0.724	1.51	39.34
8	3/29/79	9	8	0.070	0.3220	0.778	1.57	39.40
8	3/29/79	9	15	0.073	0.3443	0.832	1.67	39.49
8	3/29/79	9	20	0.076	0.3667	0.886	1.74	39.57
8	3/29/79	9	22	0.073	0.3443	0.832	1.77	39.59
8	3/29/79	9	41	0.073	0.3443	0.832	2.03	39.86
8	3/29/79	10	3	0.070	0.3220	0.778	2.33	40.15
8	3/29/79	10	11	0.067	0.2996	0.724	2.43	40.25
8	3/29/79	10	28	0.064	0.2772	0.670	2.62	40.45
8	3/29/79	10	39	0.061	0.2549	0.616	2.74	40.57
8	3/29/79	10	53	0.058	0.2381	0.575	2.88	40.71
8	3/29/79	11	19	0.055	0.2214	0.535	3.12	40.95
8	3/29/79	12	22	0.055	0.2214	0.535	3.68	41.51
8	3/29/79	12	24	0.052	0.2047	0.495	3.70	41.53
8	3/29/79	12	29	0.049	0.1880	0.454	3.74	41.57
8	3/29/79	12	50	0.052	0.2047	0.495	3.91	41.73
8	3/29/79	12	54	0.055	0.2214	0.535	3.94	41.77
8	3/29/79	12	59	0.058	0.2381	0.575	3.99	41.81
8	3/29/79	13	8	0.061	0.2549	0.616	4.08	41.90
8	3/29/79	13	21	0.064	0.2772	0.670	4.22	42.04
8	3/29/79	13	28	0.067	0.2996	0.724	4.30	42.12
8	3/29/79	13	30	0.070	0.3220	0.778	4.32	42.15
8	3/29/79	13	32	0.073	0.3443	0.832	4.35	42.17

TABLE DI- 5. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	3/29/79	13	34	0.076	0.3667	0.886	4.38	42.20
8	3/29/79	13	37	0.079	0.3891	0.940	4.42	42.25
8	3/29/79	13	40	0.082	0.4114	0.994	4.47	42.30
8	3/29/79	13	44	0.070	0.3220	0.778	4.53	42.36
8	3/29/79	13	48	0.067	0.2996	0.724	4.58	42.41
8	3/29/79	14	33	0.067	0.2996	0.724	5.12	42.95
8	3/29/79	14	50	0.064	0.2772	0.670	5.32	43.15
8	3/29/79	14	53	0.061	0.2549	0.616	5.35	43.18
8	3/29/79	15	4	0.058	0.2381	0.575	5.46	43.29
8	3/29/79	15	6	0.049	0.1880	0.454	5.48	43.31
8	3/29/79	15	8	0.046	0.1713	0.414	5.49	43.32
8	3/29/79	15	33	0.046	0.1713	0.414	5.67	43.49
8	3/29/79	15	34	0.049	0.1880	0.454	5.67	43.50
8	3/29/79	15	36	0.052	0.2047	0.495	5.69	43.52
8	3/29/79	15	56	0.052	0.2047	0.495	5.85	43.68
8	3/29/79	15	58	0.046	0.1713	0.414	5.87	43.70
8	3/29/79	15	59	0.043	0.1546	0.374	5.88	43.70
8	3/29/79	16	2	0.046	0.1713	0.414	5.90	43.72
8	3/29/79	16	3	0.049	0.1880	0.454	5.90	43.73
8	3/29/79	16	35	0.049	0.1880	0.454	6.14	43.97
8	3/29/79	16	40	0.046	0.1713	0.414	6.18	44.01
8	3/29/79	16	56	0.043	0.1546	0.374	6.29	44.11
8	3/29/79	17	16	0.040	0.1379	0.333	6.40	44.23
8	3/29/79	17	51	0.037	0.1212	0.293	6.59	44.41
8	3/29/79	18	10	0.037	0.1212	0.293	6.68	44.51
8	3/29/79	18	30	0.040	0.1379	0.333	6.78	44.61
8	3/29/79	19	3	0.043	0.1546	0.374	6.98	44.80
9	3/29/79	19	44	0.046	0.1713	0.414	7.25	45.07
8	3/29/79	19	48	0.049	0.1880	0.454	7.28	45.10
8	3/29/79	19	50	0.052	0.2047	0.495	7.29	45.12
8	3/29/79	19	53	0.055	0.2214	0.535	7.32	45.14
8	3/29/79	19	54	0.058	0.2381	0.575	7.33	45.15
8	3/29/79	20	4	0.061	0.2549	0.616	7.43	45.25
8	3/29/79	20	17	0.064	0.2772	0.670	7.57	45.39
8	3/29/79	20	27	0.067	0.2996	0.724	7.68	45.51
8	3/29/79	20	40	0.070	0.3220	0.778	7.84	45.67
8	3/29/79	20	59	0.067	0.2996	0.724	8.08	45.91
8	3/29/79	21	7	0.064	0.2772	0.670	8.17	46.00
8	3/29/79	21	21	0.061	0.2549	0.616	8.32	46.15
8	3/29/79	21	32	0.058	0.2381	0.575	8.43	46.26
8	3/29/79	21	49	0.055	0.2214	0.535	8.59	46.42
8	3/29/79	21	58	0.052	0.2047	0.495	8.67	46.49
8	3/29/79	22	12	0.049	0.1880	0.454	8.78	46.60
8	3/29/79	22	27	0.046	0.1713	0.414	8.89	46.71
8	3/29/79	23	49	0.043	0.1546	0.374	9.43	47.25
8	3/30/79	0	26	0.040	0.1379	0.333	9.64	47.47
8	3/30/79	1	5	0.037	0.1212	0.293	9.85	47.67
8	3/30/79	1	36	0.034	0.1045	0.252	9.99	47.81
8	3/30/79	2	41	0.030	0.0878	0.212	10.24	48.07
8	3/30/79	3	35	0.027	0.0790	0.191	10.42	48.25
8	3/30/79	4	7	0.024	0.3702	0.170	10.52	48.34
8	3/30/79	5	52	0.021	0.0614	0.148	10.80	48.62
8	3/30/79	6	26	0.018	0.0527	0.127	10.87	48.70
8	3/30/79	7	33	0.015	0.0439	0.106	11.00	48.83
8	3/30/79	8	38	0.012	0.0351	0.085	11.11	48.93
8	3/30/79	9	41	0.009	0.0263	0.064	11.18	49.01
8	3/30/79	10	51	0.006	0.0176	0.042	11.25	49.07
8	3/30/79	11	50	0.003	0.0088	0.021	11.28	49.10
8	3/30/79	23	59	0.0	0.0	0.0	11.41	49.23
8	4/19/79	13	15	0.0	0.0	0.0	0.0	49.23
8	4/19/79	13	41	0.003	0.0088	0.021	0.00	49.24
8	4/19/79	19	0	0.0	0.0	0.0	0.06	49.29
8	4/20/79	4	22	0.0	0.0	0.0	0.0	49.29
8	4/20/79	11	20	0.003	0.0088	0.021	0.07	49.37
8	4/20/79	11	30	0.006	0.0176	0.042	0.08	49.37
8	4/20/79	12	10	0.003	0.0088	0.021	0.10	49.39
8	4/20/79	12	25	0.006	0.0176	0.042	0.11	49.40
8	4/20/79	12	34	0.009	0.0263	0.064	0.12	49.41
8	4/20/79	12	43	0.012	0.0351	0.085	0.13	49.42
8	4/20/79	12	49	0.015	0.0439	0.106	0.14	49.43
8	4/20/79	12	57	0.018	0.0527	0.127	0.15	49.45
8	4/20/79	13	6	0.021	0.0614	0.148	0.17	49.47
8	4/20/79	13	16	0.024	0.0702	0.170	0.20	49.49
8	4/20/79	13	28	0.027	0.0790	0.191	0.24	49.53
8	4/20/79	13	40	0.030	0.0878	0.212	0.28	49.57
8	4/20/79	14	21	0.030	0.0878	0.212	0.42	49.71
8	4/20/79	14	40	0.027	0.0790	0.191	0.48	49.78
8	4/20/79	14	53	0.024	0.0702	0.170	0.52	49.82
8	4/20/79	15	5	0.021	0.0614	0.148	0.56	49.85
8	4/20/79	15	22	0.018	0.0527	0.127	0.59	49.89
8	4/20/79	15	43	0.015	0.0439	0.106	0.64	49.93
8	4/20/79	16	14	0.012	0.0351	0.085	0.68	49.98
8	4/20/79	16	45	0.009	0.0263	0.064	0.72	50.02
8	4/20/79	17	18	0.006	0.0176	0.042	0.75	50.05
8	4/20/79	17	40	0.003	0.0088	0.021	0.76	50.06
8	4/20/79	23	59	0.0	0.0	0.0	0.83	50.12
8	6/ 4/79	19	25	0.0	0.0	0.0	0.0	50.12
8	6/ 4/79	19	28	0.024	0.0702	0.170	0.00	50.13
8	6/ 4/79	19	30	0.021	0.0614	0.148	0.01	50.13
8	6/ 4/79	19	32	0.015	0.0439	0.106	0.01	50.14
8	6/ 4/79	19	34	0.009	0.0263	0.064	0.02	50.14
8	6/ 4/79	19	36	0.006	0.0176	0.042	0.02	50.14
8	6/ 4/79	19	38	0.003	0.0088	0.021	0.02	50.14
8	6/ 4/79	19	41	0.0	0.0	0.0	0.02	50.14
8	6/ 4/79	19	46	0.003	0.0088	0.021	0.02	50.15
8	6/ 4/79	19	48	0.015	0.0439	0.106	0.02	50.15
8	6/ 4/79	19	50	0.018	0.0527	0.127	0.03	50.15
8	6/ 4/79	19	54	0.015	0.0439	0.106	0.03	50.16

TABLE D1- 5. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	6/ 4/79	19	59	0.012	0.0351	0.085	0.04	50.17
8	6/ 4/79	20	10	0.006	0.0176	0.042	0.05	50.18
8	6/ 4/79	20	20	0.003	0.0088	0.021	0.06	50.18
8	6/ 4/79	21	0	0.0	0.0	0.0	0.07	50.19
8	6/ 9/79	11	30	0.0	0.0	0.0	0.0	50.19
8	6/ 9/79	11	53	0.003	0.0088	0.021	0.00	50.20
8	6/ 9/79	12	15	0.0	0.0	0.0	0.01	50.20
8	6/12/79	17	50	0.0	0.0	0.0	0.0	50.20
8	6/12/79	18	2	0.125	0.7855	1.898	0.19	50.39
8	6/12/79	18	20	1.789	25.5758	61.794	9.74	59.94
8	6/12/79	18	30	1.411	7.0962	17.145	16.32	66.52
8	6/12/79	18	35	1.320	5.9890	14.470	17.64	67.84
8	6/12/79	18	40	1.295	5.9041	14.265	18.84	69.04
8	6/12/79	18	45	0.427	3.5962	8.689	19.79	69.99
8	6/12/79	18	50	0.219	1.9595	4.734	20.35	70.55
8	6/12/79	19	0	0.171	1.2969	3.133	21.01	71.21
8	6/12/79	19	5	0.125	0.7855	1.898	21.22	71.42
8	6/12/79	19	10	0.098	0.5335	1.289	21.35	71.55
8	6/12/79	19	15	0.076	0.3667	0.886	21.44	71.64
8	6/12/79	19	20	0.061	0.2549	0.616	21.50	71.70
8	6/12/79	19	30	0.037	0.1212	0.293	21.58	71.78
8	6/12/79	19	36	0.030	0.0878	0.212	21.60	71.80
8	6/12/79	19	45	0.015	0.0439	0.106	21.63	71.83
8	6/12/79	20	14	0.006	0.0176	0.042	21.66	71.86
8	6/12/79	21	10	0.0	0.0	0.0	21.68	71.88
8	6/18/79	6	48	0.0	0.0	0.0	0.0	71.88
8	6/18/79	6	49	0.024	0.0702	0.170	0.00	71.88
8	6/18/79	6	50	0.027	0.0790	0.191	0.00	71.89
8	6/18/79	6	51	0.021	0.0614	0.148	0.01	71.89
8	6/18/79	6	52	0.018	0.0527	0.127	0.01	71.89
8	6/18/79	6	53	0.015	0.0439	0.106	0.01	71.89
8	6/18/79	6	54	0.012	0.0351	0.085	0.01	71.90
8	6/18/79	6	55	0.046	0.1713	0.414	0.02	71.90
8	6/18/79	6	56	0.055	0.2214	0.535	0.03	71.91
8	6/18/79	6	58	0.052	0.2047	0.495	0.04	71.93
8	6/18/79	6	59	0.049	0.1880	0.454	0.05	71.93
8	6/18/79	7	0	0.043	0.1546	0.374	0.06	71.94
8	6/18/79	7	2	0.037	0.1212	0.293	0.07	71.95
8	6/18/79	7	5	0.030	0.0878	0.212	0.08	71.96
8	6/18/79	7	7	0.027	0.0790	0.191	0.09	71.97
8	6/18/79	7	9	0.024	0.0702	0.170	0.09	71.98
8	6/18/79	7	11	0.021	0.0614	0.148	0.10	71.98
8	6/18/79	7	12	0.018	0.0527	0.127	0.10	71.98
8	6/18/79	7	16	0.015	0.0439	0.106	0.11	71.99
8	6/18/79	7	18	0.012	0.0351	0.085	0.11	71.99
8	6/18/79	7	23	0.009	0.0263	0.064	0.12	72.00
8	6/18/79	7	28	0.006	0.0176	0.042	0.12	72.01
8	6/18/79	7	35	0.003	0.0088	0.021	0.13	72.01
8	6/18/79	7	45	0.0	0.0	0.0	0.13	72.01
8	6/19/79	22	14	0.0	0.0	0.0	0.0	72.01
8	6/19/79	22	16	0.009	0.0263	0.064	0.00	72.01
8	6/19/79	22	21	0.012	0.0351	0.085	0.01	72.02
8	6/19/79	22	22	0.034	0.1045	0.252	0.01	72.02
8	6/19/79	22	23	0.058	0.2381	0.575	0.02	72.03
8	6/19/79	22	24	0.061	0.2549	0.616	0.03	72.04
8	6/19/79	22	30	0.064	0.2772	0.670	0.09	72.10
8	6/19/79	22	36	0.067	0.2996	0.724	0.16	72.17
8	6/19/79	22	39	0.064	0.2772	0.670	0.20	72.21
8	6/19/79	22	42	0.061	0.2549	0.616	0.23	72.24
8	6/19/79	22	43	0.067	0.2996	0.724	0.24	72.25
8	6/19/79	22	44	0.088	0.4562	1.102	0.25	72.27
8	6/19/79	22	46	0.091	0.4786	1.156	0.29	72.30
8	6/19/79	22	49	0.088	0.4562	1.102	0.35	72.36
8	6/19/79	22	51	0.085	0.4338	1.048	0.38	72.39
8	6/19/79	22	52	0.082	0.4114	0.994	0.40	72.41
8	6/19/79	22	53	0.079	0.3891	0.940	0.42	72.43
8	6/19/79	22	54	0.073	0.3443	0.832	0.43	72.44
8	6/19/79	22	57	0.070	0.3220	0.778	0.47	72.48
8	6/19/79	22	58	0.067	0.2996	0.724	0.48	72.50
8	6/19/79	23	0	0.064	0.2772	0.670	0.51	72.52
8	6/19/79	23	2	0.061	0.2549	0.616	0.53	72.54
8	6/19/79	23	5	0.058	0.2381	0.575	0.56	72.57
8	6/19/79	23	8	0.055	0.2214	0.535	0.59	72.60
8	6/19/79	23	10	0.052	0.2047	0.495	0.60	72.61
8	6/19/79	23	13	0.049	0.1880	0.454	0.63	72.64
8	6/19/79	23	16	0.046	0.1713	0.414	0.65	72.66
8	6/19/79	23	20	0.043	0.1546	0.374	0.68	72.69
8	6/19/79	23	23	0.040	0.1379	0.333	0.69	72.70
8	6/19/79	23	30	0.037	0.1212	0.293	0.73	72.74
8	6/19/79	23	39	0.034	0.1045	0.252	0.77	72.78
8	6/19/79	23	48	0.030	0.0878	0.212	0.81	72.82
8	6/19/79	23	56	0.024	0.0702	0.170	0.83	72.84
8	6/20/79	0	6	0.018	0.0527	0.127	0.86	72.87
8	6/20/79	0	16	0.012	0.0351	0.085	0.87	72.88
8	6/20/79	0	29	0.006	0.0176	0.042	0.89	72.90
8	6/20/79	0	45	0.003	0.0088	0.021	0.90	72.91
8	6/20/79	1	20	0.0	0.0	0.0	0.90	72.91
8	6/27/79	0	12	0.0	0.0	0.0	0.0	72.91
8	6/27/79	0	14	0.030	0.0878	0.212	0.00	72.92
8	6/27/79	0	16	0.067	0.2996	0.724	0.02	72.93
8	6/27/79	0	18	0.070	0.3220	0.778	0.04	72.96
8	6/27/79	0	20	0.140	0.9469	2.288	0.10	73.01
8	6/27/79	0	22	0.180	1.4073	3.400	0.19	73.10
8	6/27/79	0	24	0.354	3.3527	8.101	0.38	73.29

TABLE D1- 5. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	6/27/79	0	26	0.658	4.2419	10.249	0.69	73.60
8	6/27/79	0	27	0.689	4.3268	10.454	0.86	73.77
8	6/27/79	0	28	0.658	4.2419	10.249	1.03	73.95
8	6/27/79	0	30	0.561	3.9700	9.592	1.36	74.28
8	6/27/79	0	32	0.463	3.6982	8.935	1.67	74.58
8	6/27/79	0	34	0.335	3.2848	7.936	1.95	74.87
8	6/27/79	0	36	0.274	2.7751	6.705	2.20	75.11
8	6/27/79	0	38	0.253	2.4579	5.939	2.41	75.32
8	6/27/79	0	40	0.238	2.2314	5.391	2.60	75.51
8	6/27/79	1	4	0.232	2.1408	5.172	4.71	77.62
8	6/27/79	1	10	0.210	1.8264	4.413	5.19	78.10
8	6/27/79	1	14	0.180	1.4073	3.400	5.45	78.36
8	6/27/79	1	17	0.158	1.1497	2.778	5.60	78.52
8	6/27/79	1	20	0.140	0.9469	2.288	5.73	78.64
8	6/27/79	1	24	0.119	0.7258	1.754	5.87	78.78
8	6/27/79	1	26	0.104	0.5884	1.422	5.92	78.83
8	6/27/79	1	28	0.091	0.4786	1.156	5.96	78.87
8	6/27/79	1	30	0.085	0.4338	1.048	6.00	78.91
8	6/27/79	1	34	0.073	0.3443	0.832	6.06	78.97
8	6/27/79	1	40	0.061	0.2549	0.616	6.13	79.05
8	6/27/79	1	46	0.049	0.1880	0.454	6.19	79.10
8	6/27/79	1	50	0.043	0.1546	0.374	6.21	79.13
8	6/27/79	1	55	0.037	0.1212	0.293	6.24	79.15
8	6/27/79	2	2	0.030	0.0878	0.212	6.27	79.18
8	6/27/79	2	10	0.024	0.0702	0.170	6.30	79.21
8	6/27/79	2	22	0.018	0.0527	0.127	6.33	79.24
8	6/27/79	2	30	0.015	0.0439	0.106	6.34	79.25
8	6/27/79	2	38	0.012	0.0351	0.085	6.35	79.27
8	6/27/79	2	47	0.009	0.0263	0.064	6.37	79.28
8	6/27/79	2	59	0.006	0.0176	0.042	6.38	79.29
8	6/27/79	3	14	0.003	0.0088	0.021	6.38	79.30
8	6/27/79	3	40	0.0	0.0	0.0	6.39	79.30
8	7/ 3/79	7	57	0.0	0.0	0.0	0.0	79.30
8	7/ 3/79	7	58	0.018	0.0527	0.127	0.00	79.30
8	7/ 3/79	7	59	0.021	0.0614	0.148	0.00	79.30
8	7/ 3/79	8	1	0.024	0.0702	0.170	0.01	79.31
8	7/ 3/79	8	2	0.037	0.1212	0.293	0.01	79.31
8	7/ 3/79	8	4	0.052	0.2047	0.495	0.03	79.33
8	7/ 3/79	8	6	0.073	0.3443	0.832	0.05	79.35
8	7/ 3/79	8	10	0.079	0.3891	0.940	0.11	79.41
8	7/ 3/79	8	12	0.085	0.4338	1.048	0.14	79.44
8	7/ 3/79	8	14	0.094	0.5060	1.223	0.18	79.48
8	7/ 3/79	8	20	0.088	0.4562	1.102	0.29	79.60
8	7/ 3/79	8	22	0.094	0.5060	1.223	0.33	79.63
8	7/ 3/79	8	24	0.119	0.7258	1.754	0.38	79.68
8	7/ 3/79	8	26	0.131	0.8501	2.054	0.45	79.75
8	7/ 3/79	8	28	0.137	0.9146	2.210	0.52	79.82
8	7/ 3/79	8	32	0.128	0.8178	1.976	0.66	79.96
8	7/ 3/79	8	38	0.110	0.6434	1.554	0.83	80.13
8	7/ 3/79	8	44	0.091	0.4786	1.156	0.97	80.27
8	7/ 3/79	8	46	0.098	0.5335	1.289	1.01	80.31
8	7/ 3/79	8	48	0.113	0.6708	1.621	1.06	80.36
8	7/ 3/79	8	51	0.140	0.9469	2.288	1.16	80.46
8	7/ 3/79	8	52	0.158	1.1497	2.778	1.20	80.50
8	7/ 3/79	8	53	0.174	1.3337	3.222	1.25	80.55
8	7/ 3/79	8	54	0.189	1.5291	3.694	1.31	80.61
8	7/ 3/79	8	56	0.210	1.8264	4.413	1.44	80.74
8	7/ 3/79	9	0	0.226	2.0501	4.953	1.75	81.05
8	7/ 3/79	9	5	0.244	2.3220	5.610	2.19	81.49
8	7/ 3/79	9	10	0.256	2.5032	6.048	2.68	81.98
8	7/ 3/79	9	15	0.259	2.5485	6.157	3.19	82.49
8	7/ 3/79	9	21	0.229	2.0954	5.063	3.75	83.05
8	7/ 3/79	9	26	0.250	2.4126	5.829	4.20	83.50
8	7/ 3/79	9	28	0.323	3.2281	7.799	4.43	83.73
8	7/ 3/79	9	30	0.719	4.4118	10.659	4.74	84.04
8	7/ 3/79	9	32	1.116	5.4878	13.259	5.14	84.44
8	7/ 3/79	9	34	1.384	6.6375	16.037	5.62	84.92
8	7/ 3/79	9	36	1.484	8.9396	21.599	6.25	85.55
8	7/ 3/79	9	38	1.548	11.4967	27.777	7.07	86.37
8	7/ 3/79	9	40	1.551	11.6241	28.085	8.00	87.31
8	7/ 3/79	9	41	1.558	11.8733	28.687	8.48	87.78
8	7/ 3/79	9	42	1.573	12.4821	30.158	8.97	88.27
8	7/ 3/79	9	44	1.603	13.7846	33.305	10.03	89.33
8	7/ 3/79	9	46	1.634	15.3817	37.164	11.20	90.50
8	7/ 3/79	9	49	1.603	13.7846	33.305	12.96	92.26
8	7/ 3/79	9	50	1.591	13.2410	31.992	13.51	92.81
8	7/ 3/79	9	51	1.573	12.4821	30.158	14.02	93.33
8	7/ 3/79	9	52	1.564	12.1168	29.275	14.52	93.82
8	7/ 3/79	9	54	1.554	11.7515	28.393	15.48	94.78
8	7/ 3/79	9	56	1.509	9.8401	23.775	16.35	95.65
8	7/ 3/79	9	58	1.484	8.9396	21.599	17.11	96.41
8	7/ 3/79	10	0	1.445	7.8495	18.965	17.78	97.08
8	7/ 3/79	10	2	1.384	6.6375	16.037	18.37	97.67
8	7/ 3/79	10	4	1.332	6.0456	14.607	18.88	98.18
8	7/ 3/79	10	6	1.219	5.7200	13.820	19.35	98.65
8	7/ 3/79	10	8	1.134	5.5388	13.382	19.80	99.10
8	7/ 3/79	10	10	0.981	5.1423	12.424	20.23	99.53
8	7/ 3/79	10	12	0.677	4.2928	10.372	20.61	99.91
8	7/ 3/79	10	14	0.372	3.4207	8.265	20.92	100.23
8	7/ 3/79	10	16	0.335	3.2848	7.936	21.19	100.50
8	7/ 3/79	10	20	0.305	3.1432	7.594	21.71	101.01
8	7/ 3/79	10	24	0.274	2.7751	6.705	22.19	101.49
8	7/ 3/79	10	34	0.241	2.2767	5.501	23.21	102.51
8	7/ 3/79	10	44	0.201	1.6990	4.105	24.01	103.31
8	7/ 3/79	10	49	0.177	1.3705	3.311	24.32	103.62
8	7/ 3/79	10	52	0.155	1.1129	2.689	24.47	103.77
8	7/ 3/79	10	54	0.085	0.4338	1.048	24.53	103.83
8	7/ 3/79	11	0	0.067	0.2996	0.724	24.62	103.92
8	7/ 3/79	11	5	0.058	0.2381	0.575	24.67	103.97
8	7/ 3/79	11	13	0.049	0.1880	0.454	24.74	104.04
8	7/ 3/79	11	22	0.043	0.1546	0.374	24.80	104.10
8	7/ 3/79	11	39	0.037	0.1212	0.293	24.90	104.20

TABLE D1- 5. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	7/ 3/79	12	0	0.034	0.1045	0.252	24.99	104.29
8	7/ 3/79	12	44	0.030	0.0878	0.212	25.16	104.46
8	7/ 3/79	13	14	0.024	0.0702	0.170	25.26	104.56
8	7/ 3/79	14	4	0.018	0.0527	0.127	25.38	104.68
8	7/ 3/79	14	54	0.012	0.0351	0.085	25.47	104.77
8	7/ 3/79	15	54	0.006	0.0176	0.042	25.53	104.83
8	7/ 3/79	16	28	0.003	0.0088	0.021	25.55	104.85
8	7/ 3/79	17	14	0.0	0.0	0.0	25.56	104.86
8	7/ 3/79	20	47	0.0	0.0	0.0	25.56	104.86
8	7/ 3/79	20	50	0.021	0.0614	0.148	25.56	104.86
8	7/ 3/79	20	52	0.058	0.2381	0.575	25.57	104.87
8	7/ 3/79	20	54	0.073	0.3443	0.832	25.60	104.90
8	7/ 3/79	20	56	0.119	0.7258	1.754	25.64	104.94
8	7/ 3/79	20	58	0.143	0.9792	2.366	25.71	105.01
8	7/ 3/79	21	0	0.158	1.1497	2.778	25.79	105.10
8	7/ 3/79	21	2	0.192	1.5716	3.797	25.90	105.21
8	7/ 3/79	21	4	0.244	2.3220	5.610	26.06	105.36
8	7/ 3/79	21	6	0.268	2.6844	6.486	26.26	105.56
8	7/ 3/79	21	8	0.305	3.1432	7.594	26.50	105.80
8	7/ 3/79	21	10	0.274	2.7751	6.705	26.74	106.04
8	7/ 3/79	21	12	0.244	2.3220	5.610	26.94	106.24
8	7/ 3/79	21	14	0.226	2.0501	4.953	27.12	106.42
8	7/ 3/79	21	18	0.207	1.7840	4.310	27.43	106.73
8	7/ 3/79	21	24	0.189	1.5291	3.694	27.83	107.13
8	7/ 3/79	21	31	0.165	1.2233	2.956	28.21	107.51
8	7/ 3/79	21	36	0.146	1.0115	2.444	28.44	107.74
8	7/ 3/79	21	39	0.131	0.8501	2.054	28.55	107.85
8	7/ 3/79	21	42	0.110	0.6434	1.554	28.64	107.94
8	7/ 3/79	21	46	0.091	0.4786	1.156	28.73	108.03
8	7/ 3/79	21	50	0.076	0.3667	0.886	28.80	108.10
8	7/ 3/79	21	54	0.064	0.2772	0.670	28.85	108.15
8	7/ 3/79	22	4	0.049	0.1880	0.454	28.95	108.25
8	7/ 3/79	22	14	0.037	0.1212	0.293	29.01	108.31
8	7/ 3/79	22	25	0.027	0.0790	0.191	29.05	108.35
8	7/ 3/79	22	35	0.021	0.0614	0.148	29.08	108.38
8	7/ 3/79	22	42	0.018	0.0527	0.127	29.10	108.40
8	7/ 3/79	22	51	0.015	0.0439	0.106	29.11	108.41
8	7/ 3/79	23	0	0.012	0.0351	0.085	29.13	108.43
8	7/ 3/79	23	13	0.009	0.0263	0.064	29.14	108.45
8	7/ 3/79	23	33	0.006	0.0176	0.042	29.16	108.46
8	7/ 3/79	23	39	0.003	0.0088	0.021	29.17	108.47
8	7/ 4/79	0	10	0.0	0.0	0.0	29.17	108.47
8	7/13/79	20	6	0.0	0.0	0.0	0.0	108.47
8	7/13/79	20	7	0.037	0.1212	0.293	0.00	108.47
8	7/13/79	20	9	0.040	0.1379	0.333	0.01	108.48
8	7/13/79	20	10	0.079	0.3891	0.940	0.02	108.50
8	7/13/79	20	11	0.125	0.7855	1.898	0.05	108.52
8	7/13/79	20	12	0.140	0.9469	2.288	0.08	108.55
8	7/13/79	20	14	0.149	1.0438	2.522	0.16	108.63
8	7/13/79	20	16	0.131	0.8501	2.054	0.24	108.71
8	7/13/79	20	18	0.110	0.6434	1.554	0.30	108.77
8	7/13/79	20	19	0.125	0.7855	1.898	0.33	108.80
8	7/13/79	20	20	0.195	1.6141	3.900	0.38	108.85
8	7/13/79	20	22	0.216	1.9142	4.625	0.52	108.99
8	7/13/79	20	24	0.238	2.2314	5.391	0.68	109.16
8	7/13/79	20	25	0.219	1.9595	4.734	0.77	109.24
8	7/13/79	20	27	0.213	1.8689	4.515	0.92	109.39
8	7/13/79	20	28	0.204	1.7415	4.209	1.00	109.47
8	7/13/79	20	30	0.183	1.4442	3.489	1.12	109.60
8	7/13/79	20	32	0.165	1.2233	2.956	1.23	109.70
8	7/13/79	20	34	0.152	1.0760	2.600	1.32	109.80
8	7/13/79	20	36	0.137	0.9146	2.210	1.40	109.88
8	7/13/79	20	38	0.122	0.7532	1.820	1.47	109.94
8	7/13/79	20	40	0.104	0.5884	1.422	1.53	110.00
8	7/13/79	20	42	0.091	0.4786	1.156	1.57	110.04
8	7/13/79	20	44	0.082	0.4114	0.994	1.60	110.08
8	7/13/79	20	46	0.073	0.3443	0.832	1.63	110.11
8	7/13/79	20	47	0.082	0.4114	0.994	1.65	110.12
8	7/13/79	20	49	0.073	0.3443	0.932	1.68	110.15
8	7/13/79	20	54	0.061	0.2549	0.616	1.74	110.21
8	7/13/79	20	58	0.052	0.2047	0.495	1.78	110.25
8	7/13/79	21	2	0.043	0.1546	0.374	1.81	110.28
8	7/13/79	21	12	0.030	0.0878	0.212	1.86	110.33
8	7/13/79	21	18	0.024	0.0702	0.170	1.87	110.35
8	7/13/79	21	22	0.021	0.0614	0.148	1.89	110.36
8	7/13/79	21	27	0.018	0.0527	0.127	1.90	110.37
8	7/13/79	21	33	0.015	0.0439	0.106	1.91	110.38
8	7/13/79	21	40	0.012	0.0351	0.085	1.92	110.39
8	7/13/79	21	46	0.009	0.0263	0.064	1.93	110.40
8	7/13/79	21	54	0.006	0.0176	0.042	1.93	110.41
8	7/13/79	22	5	0.003	0.0088	0.021	1.94	110.41
8	7/13/79	22	37	0.0	0.0	0.0	1.95	110.42
8	7/14/79	0	48	0.0	0.0	0.0	1.95	110.42
8	7/14/79	0	50	0.043	0.1546	0.374	1.95	110.42
8	7/14/79	0	52	0.085	0.4338	1.048	1.98	110.45
8	7/14/79	0	54	0.177	1.3705	3.311	2.05	110.52
8	7/14/79	0	56	0.232	2.1408	5.172	2.19	110.66
8	7/14/79	0	58	0.283	2.8855	6.972	2.39	110.86
8	7/14/79	1	0	0.789	4.6071	11.131	2.69	111.16
8	7/14/79	1	2	1.298	5.9126	14.285	3.12	111.59
8	7/14/79	1	4	1.359	6.3090	15.243	3.61	112.08
8	7/14/79	1	6	1.381	6.5922	15.927	4.13	112.60
8	7/14/79	1	8	1.387	6.6828	16.146	4.66	113.13
8	7/14/79	1	14	1.387	6.6828	16.146	6.28	114.75
8	7/14/79	1	16	1.390	6.7281	16.256	6.82	115.29
8	7/14/79	1	22	1.393	6.7734	16.365	8.45	116.92
8	7/14/79	1	25	1.396	6.8187	16.475	9.27	117.74
8	7/14/79	1	28	1.393	6.7734	16.365	10.09	118.56
8	7/14/79	1	30	1.372	6.4562	15.599	10.62	119.10
8	7/14/79	1	32	1.317	5.9749	14.436	11.12	119.60
8	7/14/79	1	34	1.268	5.8389	14.107	11.60	120.07
8	7/14/79	1	36	1.225	5.7370	13.861	12.07	120.54

TABLE D1- 5. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	7/14/79	1	38	1.201	5.6860	13.738	12.53	121.00
8	7/14/79	1	40	1.180	5.6464	13.642	12.98	121.45
8	7/14/79	1	42	1.161	5.6124	13.560	13.44	121.91
8	7/14/79	1	44	1.143	5.5843	13.444	13.89	122.36
8	7/14/79	1	46	1.158	5.6067	13.546	14.34	122.81
8	7/14/79	1	48	1.204	5.6917	13.752	14.79	123.26
8	7/14/79	1	50	1.228	5.7455	13.882	15.25	123.72
8	7/14/79	1	51	1.234	5.7625	13.923	15.48	123.95
8	7/14/79	1	52	1.228	5.7455	13.882	15.71	124.19
8	7/14/79	1	54	1.210	5.7030	13.779	16.18	124.65
8	7/14/79	1	56	1.170	5.6294	13.601	16.63	125.10
8	7/14/79	1	58	1.119	5.4963	13.280	17.08	125.55
8	7/14/79	2	0	1.015	5.2358	12.650	17.51	125.98
8	7/14/79	2	2	0.689	4.3268	10.454	17.90	126.37
8	7/14/79	2	4	0.366	3.3980	8.210	18.21	126.68
8	7/14/79	2	6	0.299	3.0695	7.416	18.47	126.94
8	7/14/79	2	8	0.274	2.7751	6.705	18.70	127.18
8	7/14/79	2	12	0.256	2.5032	6.048	19.13	127.60
8	7/14/79	2	14	0.244	2.3220	5.610	19.32	127.79
8	7/14/79	2	16	0.232	2.1408	5.172	19.50	127.97
8	7/14/79	2	18	0.219	1.9595	4.734	19.67	128.14
8	7/14/79	2	20	0.204	1.7415	4.208	19.82	128.29
8	7/14/79	2	22	0.195	1.6141	3.900	19.95	128.42
8	7/14/79	2	24	0.183	1.4442	3.489	20.08	128.55
8	7/14/79	2	26	0.171	1.2969	3.133	20.19	128.66
8	7/14/79	2	28	0.158	1.1497	2.778	20.28	128.76
8	7/14/79	2	30	0.146	1.0115	2.444	20.37	128.84
8	7/14/79	2	32	0.137	0.9146	2.210	20.45	128.92
8	7/14/79	2	34	0.125	0.7855	1.898	20.52	128.99
8	7/14/79	2	36	0.116	0.6983	1.687	20.58	129.05
8	7/14/79	2	38	0.101	0.5610	1.355	20.63	129.10
8	7/14/79	2	40	0.088	0.4562	1.102	20.67	129.14
8	7/14/79	2	42	0.082	0.4114	0.994	20.70	129.18
8	7/14/79	2	44	0.076	0.3667	0.886	20.74	129.21
8	7/14/79	2	50	0.073	0.3443	0.832	20.82	129.29
8	7/14/79	2	54	0.073	0.3443	0.832	20.88	129.35
8	7/14/79	3	2	0.067	0.2996	0.724	20.98	129.45
8	7/13/79	3	9	0.061	0.2549	0.616	21.06	129.53
8	7/14/79	3	16	0.055	0.2214	0.535	21.13	129.60
8	7/14/79	3	23	0.049	0.1880	0.454	21.18	129.65
8	7/14/79	3	32	0.043	0.1546	0.374	21.25	129.72
8	7/14/79	3	42	0.037	0.1212	0.293	21.30	129.77
8	7/14/79	3	54	0.030	0.0878	0.212	21.35	129.82
8	7/14/79	4	12	0.027	0.0790	0.191	21.41	129.88
8	7/14/79	4	27	0.030	0.0878	0.212	21.46	129.93
8	7/14/79	4	41	0.034	0.1045	0.252	21.52	129.99
8	7/14/79	5	1	0.030	0.0878	0.212	21.59	130.06
8	7/14/79	5	11	0.027	0.0790	0.191	21.63	130.10
8	7/14/79	5	21	0.024	0.0702	0.170	21.66	130.13
8	7/14/79	5	36	0.021	0.0614	0.148	21.70	130.17
8	7/14/79	5	56	0.018	0.0527	0.127	21.74	130.21
8	7/14/79	6	25	0.015	0.0439	0.106	21.80	130.27
8	7/14/79	7	47	0.012	0.0351	0.085	21.93	130.40
8	7/14/79	9	47	0.009	0.0263	0.064	22.08	130.55
8	7/14/79	10	32	0.006	0.0176	0.042	22.12	130.59
8	7/14/79	10	55	0.003	0.0088	0.021	22.13	130.60
8	7/14/79	11	30	0.0	0.0	0.0	22.14	130.61
8	8/19/79	2	45	0.0	0.0	0.0	0.0	130.61
8	8/19/79	2	46	0.003	0.0088	0.021	0.00	130.61
8	8/19/79	2	53	0.006	0.0176	0.042	0.00	130.61
8	8/19/79	3	9	0.003	0.0088	0.021	0.01	130.62
8	8/19/79	3	41	0.003	0.0088	0.021	0.02	130.63
8	8/19/79	4	15	0.0	0.0	0.0	0.03	130.64
8	8/19/79	5	45	0.0	0.0	0.0	0.03	130.64
8	8/19/79	5	56	0.003	0.0088	0.021	0.03	130.64
8	8/19/79	6	2	0.006	0.0176	0.042	0.03	130.64
8	8/19/79	6	8	0.009	0.0263	0.064	0.04	130.65
8	8/19/79	6	18	0.012	0.0351	0.085	0.05	130.66
8	8/19/79	6	23	0.015	0.0439	0.106	0.06	130.67
8	8/19/79	6	25	0.018	0.0527	0.127	0.06	130.67
8	8/19/79	6	26	0.027	0.0790	0.191	0.07	130.67
8	8/19/79	6	30	0.052	0.2047	0.495	0.09	130.70
8	8/19/79	6	32	0.055	0.2214	0.535	0.11	130.71
8	8/19/79	6	39	0.049	0.1880	0.454	0.16	130.77
8	8/19/79	6	46	0.043	0.1546	0.374	0.21	130.82
8	8/19/79	6	56	0.037	0.1212	0.293	0.27	130.88
8	8/19/79	7	5	0.030	0.0878	0.212	0.31	130.91
8	8/19/79	7	14	0.024	0.0702	0.170	0.34	130.94
8	8/19/79	7	28	0.018	0.0527	0.127	0.37	130.98
8	8/19/79	7	48	0.012	0.0351	0.085	0.41	131.01
8	8/19/79	8	2	0.009	0.0263	0.064	0.42	131.03
8	8/19/79	8	16	0.006	0.0176	0.042	0.43	131.04
8	8/19/79	8	38	0.003	0.0088	0.021	0.45	131.05
8	8/19/79	9	0	0.0	0.0	0.0	0.45	131.06
8	8/19/79	21	7	0.0	0.0	0.0	0.0	131.06
8	8/19/79	21	19	0.003	0.0088	0.021	0.00	131.06
8	8/19/79	21	22	0.006	0.0176	0.042	0.00	131.06
8	8/19/79	21	25	0.012	0.0351	0.085	0.01	131.06
8	8/19/79	21	29	0.018	0.0527	0.127	0.01	131.07
8	8/19/79	21	37	0.024	0.0702	0.170	0.03	131.09
8	8/19/79	21	43	0.030	0.0878	0.212	0.05	131.11
8	8/19/79	21	47	0.037	0.1212	0.293	0.07	131.13
8	8/19/79	21	49	0.064	0.2772	0.670	0.09	131.14
8	8/19/79	21	50	0.076	0.3667	0.886	0.10	131.16
8	8/19/79	21	51	0.082	0.4114	0.994	0.11	131.17
8	8/19/79	21	55	0.098	0.5335	1.289	0.19	131.25
8	8/19/79	21	59	0.088	0.4562	1.102	0.27	131.33
8	8/19/79	22	3	0.082	0.4114	0.994	0.34	131.40
8	8/19/79	22	11	0.076	0.3667	0.886	0.47	131.52
8	8/19/79	22	21	0.061	0.2549	0.616	0.59	131.65

TABLE D1- 5. CONCLUDED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	8/19/79	22	27	0.055	0.2214	0.535	0.65	131.71
8	8/19/79	22	35	0.052	0.2047	0.495	0.72	131.77
8	8/19/79	22	42	0.043	0.1546	0.374	0.77	131.82
8	8/19/79	22	46	0.052	0.2047	0.495	0.80	131.85
8	8/19/79	22	48	0.061	0.2549	0.616	0.81	131.87
8	8/19/79	22	53	0.067	0.2996	0.724	0.87	131.93
8	8/19/79	23	2	0.058	0.2381	0.575	0.97	132.03
8	8/19/79	23	11	0.055	0.2214	0.535	1.05	132.11
8	8/19/79	23	22	0.043	0.1546	0.374	1.13	132.19
8	8/19/79	23	30	0.037	0.1212	0.293	1.18	132.24
8	8/19/79	23	39	0.030	0.0878	0.212	1.22	132.27
8	8/20/79	0	4	0.018	0.0527	0.127	1.29	132.35
8	8/20/79	0	29	0.012	0.0351	0.085	1.33	132.39
8	8/20/79	0	42	0.009	0.0263	0.064	1.35	132.41
8	8/20/79	1	1	0.006	0.0176	0.042	1.36	132.42
8	8/20/79	1	30	0.003	0.0088	0.021	1.38	132.44
8	8/20/79	2	15	0.0	0.0	0.0	1.39	132.45
8	8/21/79	18	47	0.0	0.0	0.0	0.0	132.45
8	8/21/79	18	48	0.021	0.0614	0.148	0.00	132.45
8	8/21/79	18	50	0.030	0.0878	0.212	0.01	132.45
8	8/21/79	18	52	0.034	0.1045	0.252	0.01	132.46
8	8/21/79	18	56	0.037	0.1212	0.293	0.03	132.48
8	8/21/79	18	58	0.088	0.4562	1.102	0.06	132.50
8	8/21/79	19	0	0.119	0.7258	1.754	0.10	132.55
8	8/21/79	19	2	0.140	0.9469	2.288	0.17	132.62
8	8/21/79	19	4	0.162	1.1865	2.867	0.26	132.70
8	8/21/79	19	8	0.183	1.4442	3.489	0.47	132.91
8	8/21/79	19	10	0.192	1.5716	3.797	0.59	133.04
8	8/21/79	19	12	0.213	1.8689	4.515	0.73	133.17
8	8/21/79	19	14	0.226	2.0501	4.953	0.89	133.33
8	8/21/79	19	18	0.244	2.3220	5.610	1.24	133.68
8	8/21/79	19	20	0.229	2.0954	5.063	1.42	133.86
8	8/21/79	19	22	0.213	1.8689	4.515	1.58	134.02
8	8/21/79	19	25	0.174	1.3337	3.222	1.77	134.22
8	8/21/79	19	28	0.152	1.0760	2.600	1.92	134.36
8	8/21/79	19	31	0.140	0.9469	2.288	2.04	134.48
8	8/21/79	19	40	0.122	0.7532	1.820	2.35	134.79
8	8/21/79	19	51	0.098	0.5335	1.289	2.63	135.08
8	8/21/79	20	0	0.073	0.3443	0.832	2.79	135.24
8	8/21/79	20	7	0.058	0.2381	0.575	2.87	135.32
8	8/21/79	20	17	0.046	0.1713	0.414	2.95	135.40
8	8/21/79	20	25	0.037	0.1212	0.293	3.00	135.45
8	8/21/79	20	34	0.030	0.0878	0.212	3.04	135.48
8	8/21/79	20	44	0.024	0.0702	0.170	3.07	135.52
8	8/21/79	20	49	0.021	0.0614	0.148	3.08	135.53
8	8/21/79	20	57	0.018	0.0527	0.127	3.10	135.55
8	8/21/79	21	8	0.015	0.0439	0.106	3.12	135.57
8	8/21/79	21	18	0.012	0.0351	0.085	3.14	135.59
8	8/21/79	21	30	0.009	0.0263	0.064	3.15	135.60
8	8/21/79	21	44	0.006	0.0176	0.042	3.17	135.61
8	8/21/79	22	4	0.003	0.0088	0.021	3.18	135.62
8	8/21/79	22	25	0.0	0.0	0.0	3.18	135.63
8	10/22/79	5	1	0.0	0.0	0.0	0.0	135.63
8	10/22/79	5	18	0.003	0.0088	0.021	0.00	135.63
8	10/22/79	5	36	0.006	0.0176	0.042	0.01	135.64
8	10/22/79	5	54	0.009	0.0263	0.064	0.03	135.66
8	10/22/79	5	57	0.012	0.0351	0.085	0.03	135.66
8	10/22/79	6	3	0.015	0.0439	0.106	0.04	135.67
8	10/22/79	6	11	0.018	0.0527	0.127	0.06	135.68
8	10/22/79	6	17	0.021	0.0614	0.148	0.07	135.70
8	10/22/79	6	29	0.024	0.0702	0.170	0.10	135.73
8	10/22/79	7	26	0.021	0.0614	0.148	0.25	135.88
8	10/22/79	7	36	0.021	0.0614	0.148	0.28	135.91
8	10/22/79	8	12	0.024	0.0702	0.170	0.37	136.00
8	10/22/79	8	55	0.024	0.0702	0.170	0.50	136.12
8	10/22/79	9	6	0.021	0.0614	0.148	0.52	136.15
8	10/22/79	9	20	0.018	0.0527	0.127	0.56	136.18
8	10/22/79	9	36	0.015	0.0439	0.106	0.59	136.21
8	10/22/79	9	49	0.012	0.0351	0.085	0.61	136.24
8	10/22/79	10	16	0.009	0.0263	0.064	0.64	136.27
8	10/22/79	10	30	0.012	0.0351	0.085	0.66	136.29
8	10/22/79	10	49	0.015	0.0439	0.106	0.69	136.32
8	10/22/79	11	1	0.018	0.0527	0.127	0.71	136.34
8	10/22/79	11	5	0.024	0.0702	0.170	0.72	136.35
8	10/22/79	11	14	0.030	0.0878	0.212	0.75	136.38
8	10/22/79	11	39	0.030	0.0878	0.212	0.84	136.47
8	10/22/79	11	51	0.037	0.1212	0.293	0.89	136.52
8	10/22/79	11	58	0.043	0.1546	0.374	0.93	136.56
8	10/22/79	12	6	0.049	0.1880	0.454	0.98	136.61
8	10/22/79	12	12	0.052	0.2047	0.495	1.03	136.66
8	10/22/79	12	15	0.058	0.2381	0.575	1.06	136.69
8	10/22/79	12	20	0.067	0.2996	0.724	1.11	136.74
8	10/22/79	12	29	0.061	0.2549	0.616	1.21	136.84
8	10/22/79	12	35	0.055	0.2214	0.535	1.27	136.90
8	10/22/79	12	42	0.049	0.1880	0.454	1.33	136.96
8	10/22/79	12	52	0.043	0.1546	0.374	1.40	137.02
8	10/22/79	13	3	0.037	0.1212	0.293	1.46	137.09
8	10/22/79	13	13	0.030	0.0878	0.212	1.50	137.13
8	10/22/79	13	27	0.024	0.0702	0.170	1.55	137.17
8	10/22/79	13	46	0.018	0.0527	0.127	1.59	137.22
8	10/22/79	13	59	0.015	0.0439	0.106	1.62	137.24
8	10/22/79	14	15	0.012	0.0351	0.085	1.64	137.27
8	10/22/79	14	35	0.009	0.0263	0.064	1.67	137.29
8	10/22/79	15	0	0.006	0.0176	0.042	1.69	137.32
8	10/22/79	15	36	0.003	0.0088	0.021	1.71	137.34
8	10/22/79	16	21	0.0	0.0	0.0	1.72	137.34
8	11/21/79	18	50	0.0	0.0	0.0	0.0	137.34
8	11/21/79	19	20	0.003	0.0088	0.021	0.01	137.35
8	11/21/79	19	50	0.0	0.0	0.0	0.01	137.35

TABLE D1- 6. FOUR MILE CREEK WATERSHED RUNOFF DATA FOR 1980 SITE 1

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	1/16/80	13	30	0.0	0.0	0.0	0.0	0.0
1	1/16/80	15	20	0.061	0.0079	0.561	0.51	0.51
1	1/16/80	17	18	0.101	0.0192	1.368	2.41	2.41
1	1/16/80	22	16	0.012	0.0010	0.072	5.99	5.99
1	1/16/80	23	0	0.0	0.0	0.0	6.01	6.01
1	2/20/80	6	25	0.0	0.0	0.0	0.0	6.01
1	2/20/80	8	7	0.003	0.0003	0.018	0.02	6.03
1	2/20/80	10	7	0.006	0.0005	0.036	0.07	6.08
1	2/20/80	12	18	0.009	0.0008	0.054	0.17	6.18
1	2/20/80	15	5	0.012	0.0010	0.072	0.34	6.35
1	2/20/80	17	13	0.015	0.0013	0.090	0.51	6.53
1	2/20/80	20	5	0.018	0.0015	0.108	0.80	6.81
1	2/20/80	20	46	0.021	0.0018	0.126	0.88	6.89
1	2/20/80	22	5	0.024	0.0020	0.144	1.06	7.07
1	2/21/80	2	13	0.021	0.0018	0.126	1.61	7.62
1	2/21/80	4	49	0.024	0.0020	0.144	1.96	7.97
1	2/21/80	6	23	0.027	0.0023	0.162	2.20	8.21
1	2/21/80	6	52	0.030	0.0025	0.180	2.28	8.30
1	2/21/80	7	17	0.034	0.0031	0.218	2.37	8.38
1	2/21/80	7	37	0.037	0.0036	0.256	2.45	8.46
1	2/21/80	8	1	0.040	0.0041	0.294	2.56	8.57
1	2/21/80	8	21	0.043	0.0047	0.332	2.66	8.67
1	2/21/80	8	46	0.046	0.0052	0.370	2.81	8.82
1	2/21/80	9	1	0.049	0.0057	0.409	2.90	8.92
1	2/21/80	9	15	0.052	0.0063	0.447	3.00	9.02
1	2/21/80	9	29	0.055	0.0068	0.485	3.11	9.12
1	2/21/80	9	49	0.058	0.0073	0.523	3.28	9.29
1	2/21/80	10	3	0.061	0.0079	0.561	3.41	9.42
1	2/21/80	10	23	0.064	0.0087	0.619	3.60	9.62
1	2/21/80	10	45	0.067	0.0095	0.677	3.84	9.85
1	2/21/80	11	31	0.067	0.0095	0.677	4.36	10.37
1	2/21/80	11	37	0.064	0.0087	0.619	4.43	10.44
1	2/21/80	11	41	0.070	0.0103	0.735	4.47	10.48
1	2/21/80	11	46	0.076	0.0119	0.851	4.54	10.55
1	2/21/80	11	49	0.079	0.0127	0.909	4.58	10.59
1	2/21/80	12	2	0.091	0.0160	1.141	4.80	10.81
1	2/21/80	12	5	0.098	0.0181	1.292	4.86	10.88
1	2/21/80	12	9	0.104	0.0202	1.443	4.95	10.97
1	2/21/80	12	13	0.110	0.0224	1.595	5.06	11.07
1	2/21/80	12	21	0.122	0.0266	1.898	5.29	11.30
1	2/21/80	12	26	0.134	0.0321	2.285	5.46	11.47
1	2/21/80	12	39	0.137	0.0334	2.382	5.97	11.98
1	2/21/80	13	3	0.134	0.0321	2.285	6.90	12.91
1	2/21/80	13	19	0.131	0.0307	2.188	7.50	13.51
1	2/21/80	13	24	0.128	0.0293	2.091	7.68	13.69
1	2/21/80	13	50	0.122	0.0266	1.898	8.54	14.55
1	2/21/80	14	9	0.116	0.0245	1.746	9.12	15.13
1	2/21/80	14	25	0.110	0.0224	1.595	9.56	15.58
1	2/21/80	14	43	0.107	0.0213	1.519	10.03	16.04
1	2/21/80	15	5	0.104	0.0202	1.443	10.57	16.59
1	2/21/80	15	10	0.110	0.0224	1.595	10.70	16.71
1	2/21/80	15	37	0.107	0.0213	1.519	11.40	17.41
1	2/21/80	15	48	0.104	0.0202	1.443	11.67	17.68
1	2/21/80	16	5	0.098	0.0181	1.292	12.06	18.07
1	2/21/80	16	24	0.091	0.0160	1.141	12.44	18.46
1	2/21/80	16	45	0.085	0.0144	1.025	12.82	18.84
1	2/21/80	17	4	0.082	0.0136	0.967	13.14	19.15
1	2/21/80	17	21	0.079	0.0127	0.909	13.40	19.42
1	2/21/80	17	39	0.076	0.0119	0.851	13.67	19.68
1	2/21/80	18	6	0.073	0.0111	0.793	14.04	20.05
1	2/21/80	18	44	0.070	0.0103	0.735	14.52	20.53
1	2/21/80	19	20	0.067	0.0095	0.677	14.95	20.96
1	2/21/80	19	40	0.064	0.0087	0.619	15.16	21.17
1	2/21/80	19	55	0.061	0.0079	0.561	15.31	21.32
1	2/21/80	20	19	0.058	0.0073	0.523	15.53	21.54
1	2/21/80	20	43	0.055	0.0068	0.485	15.73	21.74
1	2/21/80	21	29	0.052	0.0063	0.447	16.08	22.10
1	2/21/80	22	15	0.049	0.0057	0.409	16.41	22.42
1	2/21/80	22	56	0.046	0.0052	0.370	16.68	22.69
1	2/21/80	23	34	0.043	0.0047	0.332	16.90	22.91
1	2/21/80	23	53	0.040	0.0041	0.294	17.00	23.01
1	2/22/80	0	53	0.037	0.0036	0.256	17.28	23.29
1	2/22/80	2	55	0.034	0.0031	0.218	17.76	23.77
1	2/22/80	3	57	0.030	0.0025	0.180	17.96	23.97
1	2/22/80	5	15	0.027	0.0023	0.162	18.18	24.20
1	2/22/80	6	47	0.024	0.0020	0.144	18.42	24.43
1	2/22/80	7	49	0.021	0.0018	0.126	18.56	24.57
1	2/22/80	9	19	0.024	0.0020	0.144	18.76	24.77
1	2/22/80	9	43	0.027	0.0023	0.162	18.82	24.83
1	2/22/80	9	55	0.030	0.0025	0.180	18.86	24.87
1	2/22/80	10	11	0.034	0.0031	0.218	18.91	24.92
1	2/22/80	10	28	0.037	0.0036	0.256	18.98	24.99
1	2/22/80	10	41	0.040	0.0041	0.294	19.03	25.05
1	2/22/80	11	8	0.043	0.0047	0.332	19.18	25.19
1	2/22/80	11	29	0.049	0.0057	0.409	19.31	25.32
1	2/22/80	12	2	0.055	0.0068	0.485	19.55	25.56
1	2/22/80	12	37	0.058	0.0073	0.523	19.85	25.86
1	2/22/80	12	46	0.061	0.0079	0.561	19.93	25.94
1	2/22/80	13	20	0.058	0.0073	0.523	20.23	26.25
1	2/22/80	14	10	0.055	0.0068	0.485	20.65	26.67
1	2/22/80	15	2	0.058	0.0073	0.523	21.09	27.10
1	2/22/80	15	33	0.055	0.0068	0.485	21.35	27.36
1	2/22/80	16	28	0.049	0.0057	0.409	21.76	27.77
1	2/22/80	17	8	0.043	0.0047	0.332	22.01	28.02
1	2/22/80	17	53	0.037	0.0036	0.256	22.23	28.24
1	2/22/80	18	35	0.030	0.0025	0.180	22.38	28.39
1	2/22/80	19	6	0.027	0.0023	0.162	22.47	28.48
1	2/22/80	19	54	0.024	0.0020	0.144	22.59	28.60
1	2/22/80	20	45	0.021	0.0018	0.126	22.70	28.72
1	2/22/80	22	26	0.018	0.0015	0.108	22.90	28.91
1	2/22/80	23	26	0.015	0.0013	0.090	23.00	29.01
1	2/23/80	1	8	0.015	0.0013	0.090	23.15	29.16

TABLE D1- 6. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	2/23/80	1	20	0.018	0.0015	0.108	23.17	29.18
1	2/23/80	1	30	0.024	0.0020	0.144	23.19	29.21
1	2/23/80	1	45	0.030	0.0025	0.180	23.23	29.25
1	2/23/80	1	53	0.034	0.0031	0.218	23.26	29.27
1	2/23/80	2	22	0.037	0.0036	0.256	23.38	29.39
1	2/23/80	3	30	0.037	0.0036	0.256	23.67	29.68
1	2/23/80	5	17	0.034	0.0031	0.218	24.09	30.10
1	2/23/80	7	5	0.037	0.0036	0.256	24.51	30.53
1	2/23/80	7	46	0.040	0.0041	0.294	24.70	30.71
1	2/23/80	9	2	0.043	0.0047	0.332	25.10	31.11
1	2/23/80	9	22	0.043	0.0047	0.332	25.21	31.22
1	2/23/80	10	3	0.040	0.0041	0.294	25.42	31.44
1	2/23/80	10	6	0.037	0.0036	0.256	25.44	31.45
1	2/23/80	10	10	0.024	0.0020	0.144	25.45	31.46
1	2/23/80	10	13	0.018	0.0015	0.108	25.46	31.47
1	2/23/80	10	18	0.012	0.0010	0.072	25.46	31.48
1	2/23/80	11	4	0.009	0.0008	0.054	25.51	31.52
1	2/23/80	11	58	0.012	0.0010	0.072	25.57	31.58
1	2/23/80	12	22	0.015	0.0013	0.090	25.60	31.61
1	2/23/80	12	36	0.018	0.0015	0.108	25.62	31.64
1	2/23/80	12	50	0.021	0.0018	0.126	25.65	31.66
1	2/23/80	13	28	0.018	0.0015	0.108	25.73	31.74
1	2/23/80	13	50	0.021	0.0018	0.126	25.77	31.78
1	2/23/80	14	42	0.024	0.0020	0.144	25.89	31.90
1	2/23/80	16	4	0.021	0.0018	0.126	26.07	32.08
1	2/23/80	16	30	0.021	0.0018	0.126	26.12	32.14
1	2/23/80	16	35	0.024	0.0020	0.144	26.14	32.15
1	2/23/80	16	39	0.030	0.0025	0.180	26.15	32.16
1	2/23/80	16	48	0.043	0.0047	0.332	26.18	32.20
1	2/23/80	16	56	0.049	0.0057	0.409	26.23	32.25
1	2/23/80	17	12	0.052	0.0063	0.447	26.35	32.36
1	2/23/80	17	40	0.049	0.0057	0.409	26.55	32.56
1	2/23/80	18	16	0.043	0.0047	0.332	26.77	32.78
1	2/23/80	18	43	0.040	0.0041	0.294	26.91	32.92
1	2/23/80	20	0	0.037	0.0036	0.256	27.26	33.28
1	2/24/80	9	32	0.037	0.0036	0.256	30.73	36.74
1	2/24/80	9	56	0.034	0.0031	0.218	30.82	36.83
1	2/24/80	10	0	0.024	0.0020	0.144	30.83	36.85
1	2/24/80	10	16	0.018	0.0015	0.108	30.87	36.88
1	2/24/80	10	32	0.012	0.0010	0.072	30.89	36.90
1	2/24/80	11	20	0.0	0.0	0.0	30.92	36.93
1	3/ 9/80	14	40	0.0	0.0	0.0	0.0	36.93
1	3/ 9/80	15	16	0.015	0.0013	0.090	0.03	36.96
1	3/ 9/80	15	36	0.018	0.0015	0.108	0.06	36.99
1	3/ 9/80	15	52	0.021	0.0018	0.126	0.09	37.02
1	3/ 9/80	16	8	0.024	0.0020	0.144	0.13	37.06
1	3/ 9/80	16	14	0.030	0.0025	0.180	0.14	37.08
1	3/ 9/80	16	19	0.034	0.0031	0.218	0.16	37.09
1	3/ 9/80	16	36	0.037	0.0036	0.256	0.23	37.16
1	3/ 9/80	17	40	0.040	0.0041	0.294	0.52	37.45
1	3/ 9/80	19	44	0.037	0.0036	0.256	1.09	38.02
1	3/ 9/80	20	32	0.037	0.0036	0.256	1.29	38.23
1	3/ 9/80	20	40	0.040	0.0041	0.294	1.33	38.26
1	3/ 9/80	21	32	0.043	0.0047	0.332	1.60	38.53
1	3/ 9/80	22	7	0.046	0.0052	0.370	1.81	38.74
1	3/ 9/80	22	36	0.049	0.0057	0.409	1.99	38.93
1	3/ 9/80	22	59	0.052	0.0063	0.447	2.16	39.09
1	3/ 9/80	23	24	0.055	0.0068	0.485	2.35	39.28
1	3/ 9/80	24	0	0.058	0.0073	0.523	2.66	39.59
1	3/10/80	0	44	0.061	0.0079	0.561	3.05	39.98
1	3/10/80	1	16	0.058	0.0073	0.523	3.34	40.27
1	3/10/80	1	34	0.055	0.0068	0.485	3.49	40.43
1	3/10/80	2	11	0.052	0.0063	0.447	3.78	40.71
1	3/10/80	2	40	0.049	0.0057	0.409	3.99	40.92
1	3/10/80	2	59	0.046	0.0052	0.370	4.11	41.04
1	3/10/80	3	30	0.043	0.0047	0.332	4.29	41.22
1	3/10/80	4	3	0.040	0.0041	0.294	4.46	41.40
1	3/10/80	4	38	0.037	0.0036	0.256	4.62	41.56
1	3/10/80	5	11	0.034	0.0031	0.218	4.75	41.69
1	3/10/80	5	48	0.030	0.0025	0.180	4.88	41.81
1	3/10/80	6	34	0.027	0.0023	0.162	5.01	41.94
1	3/10/80	9	0	0.0	0.0	0.0	5.20	42.14
1	3/14/80	12	50	0.0	0.0	0.0	0.0	42.14
1	3/14/80	13	20	0.018	0.0015	0.108	0.03	42.16
1	3/14/80	14	8	0.024	0.0020	0.144	0.13	42.26
1	3/14/80	14	18	0.027	0.0023	0.162	0.15	42.29
1	3/14/80	14	38	0.030	0.0025	0.180	0.21	42.35
1	3/14/80	14	42	0.034	0.0031	0.218	0.22	42.36
1	3/14/80	14	52	0.037	0.0036	0.256	0.26	42.40
1	3/14/80	15	4	0.043	0.0047	0.332	0.32	42.46
1	3/14/80	15	16	0.049	0.0057	0.409	0.40	42.53
1	3/14/80	15	28	0.055	0.0068	0.485	0.48	42.62
1	3/14/80	15	36	0.058	0.0073	0.523	0.55	42.69
1	3/14/80	15	46	0.061	0.0079	0.561	0.64	42.78
1	3/14/80	15	55	0.064	0.0087	0.619	0.73	42.87
1	3/14/80	16	16	0.067	0.0095	0.677	0.96	43.09
1	3/14/80	16	41	0.064	0.0087	0.619	1.23	43.36
1	3/14/80	17	0	0.061	0.0079	0.561	1.41	43.55
1	3/14/80	17	16	0.058	0.0073	0.523	1.56	43.70
1	3/14/80	17	32	0.055	0.0068	0.485	1.69	43.83
1	3/14/80	17	49	0.052	0.0063	0.447	1.83	43.96
1	3/14/80	18	0	0.049	0.0057	0.409	1.90	44.04
1	3/14/80	18	12	0.046	0.0052	0.370	1.98	44.12
1	3/14/80	18	24	0.043	0.0047	0.332	2.05	44.19
1	3/14/80	18	49	0.040	0.0041	0.294	2.18	44.32
1	3/14/80	19	40	0.037	0.0036	0.256	2.42	44.55
1	3/14/80	20	17	0.040	0.0041	0.294	2.59	44.72
1	3/14/80	20	40	0.043	0.0047	0.332	2.71	44.84
1	3/15/80	2	36	0.040	0.0041	0.294	4.56	46.70
1	3/15/80	3	10	0.037	0.0036	0.256	4.72	46.86

TABLE D1- 6. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	3/15/80	3	57	0.034	0.0031	0.218	4.91	47.04
1	3/15/80	4	38	0.030	0.0025	0.180	5.04	47.18
1	3/15/80	5	33	0.027	0.0023	0.162	5.20	47.33
1	3/15/80	6	56	0.024	0.0020	0.144	5.41	47.55
1	3/15/80	7	19	0.027	0.0023	0.162	5.47	47.60
1	3/15/80	7	29	0.030	0.0025	0.180	5.53	47.63
1	3/15/80	7	45	0.034	0.0031	0.218	5.55	47.69
1	3/15/80	8	3	0.034	0.0031	0.218	5.61	47.75
1	3/15/80	8	8	0.030	0.0025	0.180	5.63	47.77
1	3/15/80	8	16	0.027	0.0023	0.162	5.65	47.79
1	3/15/80	8	24	0.024	0.0020	0.144	5.67	47.81
1	3/15/80	8	48	0.021	0.0018	0.126	5.73	47.86
1	3/15/80	9	41	0.021	0.0018	0.126	5.84	47.98
1	3/15/80	10	12	0.024	0.0020	0.144	5.91	48.05
1	3/15/80	10	23	0.027	0.0023	0.162	5.94	48.07
1	3/15/80	10	32	0.030	0.0025	0.180	5.96	48.10
1	3/15/80	10	44	0.037	0.0036	0.256	6.01	48.14
1	3/15/80	10	52	0.043	0.0047	0.332	6.05	48.18
1	3/15/80	11	0	0.049	0.0057	0.409	6.09	48.23
1	3/15/80	11	9	0.055	0.0068	0.485	6.16	48.30
1	3/15/80	11	16	0.061	0.0079	0.561	6.22	48.36
1	3/15/80	11	21	0.067	0.0095	0.677	6.27	48.41
1	3/15/80	11	28	0.076	0.0119	0.851	6.36	48.50
1	3/15/80	11	43	0.091	0.0160	1.141	6.61	48.75
1	3/15/80	11	51	0.104	0.0202	1.443	6.78	48.92
1	3/15/80	11	55	0.110	0.0224	1.595	6.89	49.02
1	3/15/80	12	1	0.116	0.0245	1.746	7.05	49.19
1	3/15/80	12	7	0.122	0.0266	1.898	7.24	49.37
1	3/15/80	12	9	0.128	0.0293	2.091	7.30	49.44
1	3/15/80	12	17	0.140	0.0348	2.479	7.61	49.74
1	3/15/80	12	24	0.152	0.0402	2.866	7.92	50.05
1	3/15/80	12	28	0.158	0.0436	3.105	8.12	50.25
1	3/15/80	12	32	0.174	0.0519	3.700	8.34	50.48
1	3/15/80	12	35	0.189	0.0609	4.340	8.54	50.68
1	3/15/80	12	39	0.201	0.0688	4.905	8.85	50.99
1	3/15/80	12	43	0.207	0.0728	5.188	9.19	51.33
1	3/15/80	12	45	0.210	0.0748	5.329	9.36	51.50
1	3/15/80	12	52	0.213	0.0767	5.470	9.99	52.13
1	3/15/80	13	2	0.216	0.0791	5.636	10.92	53.06
1	3/15/80	13	20	0.219	0.0814	5.802	12.64	54.77
1	3/15/80	13	28	0.213	0.0767	5.470	13.39	55.52
1	3/15/80	13	45	0.213	0.0767	5.470	14.94	57.07
1	3/15/80	14	0	0.204	0.0708	5.047	16.25	58.39
1	3/15/80	14	8	0.201	0.0688	4.905	16.92	59.05
1	3/15/80	14	16	0.195	0.0648	4.623	17.55	59.69
1	3/15/80	14	25	0.195	0.0648	4.623	18.24	60.38
1	3/15/80	14	39	0.189	0.0609	4.340	19.29	61.43
1	3/15/80	14	47	0.183	0.0569	4.057	19.85	61.99
1	3/15/80	14	54	0.171	0.0502	3.581	20.30	62.43
1	3/15/80	15	0	0.165	0.0469	3.343	20.64	62.78
1	3/15/80	15	17	0.152	0.0402	2.866	21.52	63.66
1	3/15/80	15	36	0.140	0.0348	2.479	22.37	64.50
1	3/15/80	16	0	0.128	0.0293	2.091	23.28	65.42
1	3/15/80	16	22	0.116	0.0245	1.746	23.98	66.12
1	3/15/80	16	44	0.104	0.0202	1.443	24.57	66.71
1	3/15/80	17	0	0.091	0.0160	1.141	24.91	67.05
1	3/15/80	17	23	0.079	0.0127	0.909	25.31	67.44
1	3/15/80	17	36	0.073	0.0111	0.793	25.49	67.63
1	3/15/80	17	52	0.067	0.0095	0.677	25.69	67.82
1	3/15/80	18	10	0.061	0.0079	0.561	25.87	68.01
1	3/15/80	18	33	0.055	0.0068	0.485	26.07	68.21
1	3/15/80	19	2	0.049	0.0057	0.409	26.29	68.43
1	3/15/80	19	22	0.046	0.0052	0.370	26.42	68.56
1	3/15/80	19	50	0.043	0.0047	0.332	26.58	68.72
1	3/15/80	20	14	0.040	0.0041	0.294	26.71	68.84
1	3/15/80	20	36	0.037	0.0036	0.256	26.81	68.95
1	3/15/80	21	6	0.034	0.0031	0.218	26.93	69.06
1	3/15/80	21	44	0.030	0.0025	0.180	27.05	69.19
1	3/15/80	22	50	0.027	0.0023	0.162	27.24	69.38
1	3/15/80	23	52	0.024	0.0020	0.144	27.40	69.54
1	3/16/80	2	18	0.021	0.0018	0.126	27.73	69.86
1	3/16/80	5	0	0.018	0.0015	0.108	28.04	70.18
1	3/16/80	8	50	0.018	0.0015	0.108	28.46	70.59
1	3/16/80	10	22	0.021	0.0018	0.126	28.63	70.77
1	3/16/80	12	16	0.024	0.0020	0.144	28.89	71.03
1	3/16/80	13	46	0.021	0.0018	0.126	29.09	71.23
1	3/16/80	15	36	0.018	0.0015	0.108	29.31	71.44
1	3/16/80	17	8	0.015	0.0013	0.090	29.46	71.59
1	3/16/80	18	52	0.012	0.0010	0.072	29.60	71.73
1	3/16/80	19	5	0.015	0.0013	0.090	29.62	71.75
1	3/16/80	19	9	0.018	0.0015	0.108	29.62	71.76
1	3/16/80	19	13	0.021	0.0018	0.126	29.63	71.77
1	3/16/80	19	36	0.024	0.0020	0.144	29.68	71.82
1	3/16/80	20	18	0.024	0.0020	0.144	29.78	71.92
1	3/16/80	20	35	0.027	0.0023	0.162	29.83	71.96
1	3/16/80	21	52	0.030	0.0025	0.180	30.04	72.18
1	3/16/80	22	49	0.027	0.0023	0.162	30.21	72.34
1	3/16/80	23	11	0.024	0.0020	0.144	30.26	72.40
1	3/17/80	0	2	0.021	0.0018	0.126	30.38	72.51
1	3/17/80	0	40	0.018	0.0015	0.108	30.45	72.59
1	3/17/80	2	16	0.015	0.0013	0.090	30.61	72.75
1	3/17/80	3	54	0.012	0.0010	0.072	30.74	72.88
1	3/17/80	5	33	0.009	0.0008	0.054	30.85	72.98
1	3/17/80	8	19	0.006	0.0005	0.036	30.97	73.11
1	3/17/80	9	40	0.0	0.0	0.0	30.99	73.13
1	5/29/80	7	36	0.0	0.0	0.0	0.0	73.13
1	5/29/80	7	37	0.040	0.0041	0.294	0.00	73.13
1	5/29/80	7	38	0.049	0.0057	0.409	0.01	73.14
1	5/29/80	7	40	0.046	0.0052	0.370	0.02	73.15
1	5/29/80	7	42	0.037	0.0036	0.256	0.03	73.16
1	5/29/80	7	45	0.030	0.0025	0.180	0.04	73.17
1	5/29/80	7	47	0.034	0.0031	0.218	0.05	73.18

TABLE D1- 6. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	5/29/80	7	48	0.043	0.0047	0.332	0.05	73.18
1	5/29/80	7	49	0.049	0.0057	0.409	0.06	73.19
1	5/29/80	7	50	0.055	0.0068	0.485	0.07	73.20
1	5/29/80	7	52	0.058	0.0073	0.523	0.08	73.21
1	5/29/80	7	54	0.052	0.0063	0.447	0.10	73.23
1	5/29/80	7	57	0.037	0.0036	0.256	0.12	73.25
1	5/29/80	8	0	0.027	0.0023	0.162	0.13	73.26
1	5/29/80	8	2	0.021	0.0018	0.126	0.13	73.26
1	5/29/80	8	4	0.015	0.0013	0.090	0.14	73.27
1	5/29/80	8	7	0.009	0.0008	0.054	0.14	73.27
1	5/29/80	8	10	0.0	0.0	0.0	0.14	73.27
1	5/29/80	8	29	0.0	0.0	0.0	0.14	73.27
1	5/29/80	8	30	0.009	0.0008	0.054	0.14	73.27
1	5/29/80	8	31	0.052	0.0063	0.447	0.15	73.28
1	5/29/80	8	32	0.110	0.0224	1.595	0.16	73.29
1	5/29/80	8	33	0.162	0.0452	3.224	0.20	73.33
1	5/29/80	8	34	0.204	0.0708	5.047	0.27	73.40
1	5/29/80	8	35	0.235	0.0930	6.629	0.37	73.50
1	5/29/80	8	36	0.244	0.1000	7.126	0.48	73.61
1	5/29/80	8	37	0.250	0.1053	7.509	0.61	73.74
1	5/29/80	8	38	0.259	0.1134	8.085	0.74	73.87
1	5/29/80	8	39	0.247	0.1026	7.318	0.86	73.99
1	5/29/80	8	41	0.235	0.0930	6.629	1.10	74.23
1	5/29/80	8	42	0.299	0.1513	10.788	1.24	74.37
1	5/29/80	8	44	0.332	0.1880	13.404	1.65	74.78
1	5/29/80	8	45	0.323	0.1778	12.677	1.86	74.99
1	5/29/80	8	46	0.311	0.1642	11.708	2.07	75.20
1	5/29/80	8	47	0.287	0.1391	9.915	2.25	75.38
1	5/29/80	8	48	0.262	0.1161	8.276	2.40	75.53
1	5/29/80	8	49	0.238	0.0953	6.795	2.52	75.65
1	5/29/80	8	50	0.216	0.0791	5.636	2.63	75.76
1	5/29/80	8	51	0.195	0.0648	4.623	2.71	75.84
1	5/29/80	8	52	0.177	0.0536	3.819	2.78	75.91
1	5/29/80	8	53	0.155	0.0419	2.986	2.84	75.97
1	5/29/80	8	54	0.137	0.0334	2.382	2.88	76.01
1	5/29/80	8	55	0.122	0.0266	1.898	2.92	76.05
1	5/29/80	8	57	0.101	0.0192	1.368	2.97	76.10
1	5/29/80	8	59	0.082	0.0136	0.967	3.01	76.14
1	5/29/80	9	2	0.067	0.0095	0.677	3.05	76.18
1	5/29/80	9	5	0.046	0.0052	0.370	3.08	76.21
1	5/29/80	9	7	0.037	0.0036	0.256	3.09	76.22
1	5/29/80	9	9	0.027	0.0023	0.162	3.10	76.23
1	5/29/80	9	10	0.024	0.0020	0.144	3.10	76.23
1	5/29/80	9	13	0.015	0.0013	0.090	3.11	76.24
1	5/29/80	9	16	0.009	0.0008	0.054	3.11	76.24
1	5/29/80	9	20	0.003	0.0003	0.018	3.11	76.24
1	5/29/80	9	23	0.0	0.0	0.0	3.11	76.24
1	5/30/80	1	28	0.0	0.0	0.0	0.0	76.24
1	5/30/80	1	29	0.018	0.0015	0.108	0.00	76.24
1	5/30/80	1	30	0.027	0.0023	0.162	0.00	76.25
1	5/30/80	1	31	0.037	0.0036	0.256	0.01	76.25
1	5/30/80	1	32	0.043	0.0047	0.332	0.01	76.25
1	5/30/80	1	36	0.037	0.0036	0.256	0.03	76.27
1	5/30/80	1	40	0.030	0.0025	0.180	0.05	76.29
1	5/30/80	1	47	0.021	0.0018	0.126	0.06	76.31
1	5/30/80	1	50	0.015	0.0013	0.090	0.07	76.31
1	5/30/80	1	55	0.009	0.0008	0.054	0.07	76.32
1	5/30/80	1	58	0.006	0.0005	0.036	0.08	76.32
1	5/30/80	2	3	0.003	0.0003	0.018	0.08	76.32
1	5/30/80	2	7	0.0	0.0	0.0	0.08	76.32
1	6/ 2/80	16	54	0.0	0.0	0.0	0.0	76.32
1	6/ 2/80	16	55	0.055	0.0068	0.485	0.00	76.33
1	6/ 2/80	16	56	0.101	0.0192	1.368	0.02	76.34
1	6/ 2/80	16	57	0.128	0.0293	2.091	0.05	76.37
1	6/ 2/80	16	58	0.156	0.0436	3.105	0.09	76.41
1	6/ 2/80	16	59	0.192	0.0629	4.481	0.15	76.48
1	6/ 2/80	17	0	0.223	0.0837	5.967	0.24	76.56
1	6/ 2/80	17	1	0.253	0.1080	7.701	0.36	76.68
1	6/ 2/80	17	2	0.283	0.1360	9.697	0.50	76.82
1	6/ 2/80	17	3	0.302	0.1544	11.006	0.67	77.00
1	6/ 2/80	17	4	0.335	0.1914	13.646	0.88	77.20
1	6/ 2/80	17	5	0.351	0.2098	14.958	1.12	77.44
1	6/ 2/80	17	6	0.366	0.2282	16.270	1.38	77.70
1	6/ 2/80	17	7	0.375	0.2409	17.172	1.66	77.98
1	6/ 2/80	17	8	0.369	0.2325	16.571	1.94	78.26
1	6/ 2/80	17	9	0.363	0.2246	16.008	2.21	78.53
1	6/ 2/80	17	10	0.354	0.2135	15.220	2.47	78.79
1	6/ 2/80	17	11	0.344	0.2025	14.433	2.72	79.04
1	6/ 2/80	17	12	0.335	0.1914	13.646	2.95	79.27
1	6/ 2/80	17	14	0.323	0.1778	12.677	3.39	79.71
1	6/ 2/80	17	15	0.317	0.1710	12.192	3.60	79.92
1	6/ 2/80	17	18	0.314	0.1676	11.950	4.20	80.52
1	6/ 2/80	17	21	0.317	0.1710	12.192	4.80	81.13
1	6/ 2/80	17	24	0.314	0.1676	11.950	5.41	81.73
1	6/ 2/80	17	26	0.317	0.1710	12.192	5.81	82.13
1	6/ 2/80	17	27	0.323	0.1778	12.677	6.02	82.34
1	6/ 2/80	17	30	0.317	0.1710	12.192	6.64	82.96
1	6/ 2/80	17	32	0.311	0.1642	11.708	7.04	83.36
1	6/ 2/80	17	33	0.299	0.1513	10.788	7.22	83.55
1	6/ 2/80	17	35	0.283	0.1360	9.697	7.57	83.89
1	6/ 2/80	17	36	0.268	0.1215	8.660	7.72	84.04
1	6/ 2/80	17	38	0.244	0.1000	7.126	7.98	84.30
1	6/ 2/80	17	39	0.226	0.0860	6.133	8.09	84.41
1	6/ 2/80	17	41	0.198	0.0668	4.764	8.27	84.60
1	6/ 2/80	17	43	0.177	0.0536	3.819	8.42	84.74
1	6/ 2/80	17	44	0.165	0.0469	3.343	8.48	84.80
1	6/ 2/80	17	46	0.140	0.0348	2.479	8.57	84.90
1	6/ 2/80	17	47	0.131	0.0307	2.188	8.61	84.93
1	6/ 2/80	17	48	0.122	0.0266	1.898	8.65	84.97
1	6/ 2/80	17	50	0.110	0.0224	1.595	8.70	85.03

TABLE D1- 6. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	6/ 2/80	17	51	0.098	0.0181	1.292	8.73	85.05
1	6/ 2/80	17	54	0.079	0.0127	0.909	8.78	85.11
1	6/ 2/80	17	55	0.073	0.0111	0.793	8.80	85.12
1	6/ 2/80	17	59	0.061	0.0079	0.561	8.84	85.16
1	6/ 2/80	18	2	0.055	0.0068	0.485	8.87	85.19
1	6/ 2/80	18	4	0.061	0.0079	0.561	8.89	85.21
1	6/ 2/80	18	5	0.070	0.0103	0.735	8.90	85.22
1	6/ 2/80	18	7	0.079	0.0127	0.909	8.92	85.25
1	6/ 2/80	18	10	0.079	0.0127	0.909	8.97	85.29
1	6/ 2/80	18	14	0.064	0.0087	0.619	9.02	85.34
1	6/ 2/80	18	18	0.055	0.0068	0.485	9.06	85.38
1	6/ 2/80	18	21	0.052	0.0063	0.447	9.08	85.40
1	6/ 2/80	18	24	0.049	0.0057	0.409	9.10	85.42
1	6/ 2/80	18	26	0.043	0.0047	0.332	9.11	85.44
1	6/ 2/80	18	30	0.030	0.0025	0.180	9.13	85.45
1	6/ 2/80	18	32	0.024	0.0020	0.144	9.14	85.46
1	6/ 2/80	18	35	0.018	0.0015	0.108	9.14	85.47
1	6/ 2/80	18	39	0.012	0.0010	0.072	9.15	85.47
1	6/ 2/80	18	44	0.006	0.0005	0.036	9.15	85.48
1	6/ 2/80	19	0	0.0	0.0	0.0	9.16	85.48
1	6/ 6/80	18	51	0.0	0.0	0.0	0.0	85.48
1	6/ 6/80	18	52	0.027	0.0023	0.162	0.00	85.48
1	6/ 6/80	18	53	0.052	0.0063	0.447	0.01	85.49
1	6/ 6/80	18	54	0.067	0.0095	0.677	0.02	85.50
1	6/ 6/80	18	55	0.076	0.0119	0.851	0.03	85.51
1	6/ 6/80	18	56	0.082	0.0136	0.967	0.04	85.52
1	6/ 6/80	18	58	0.088	0.0152	1.083	0.08	85.56
1	6/ 6/80	18	59	0.085	0.0144	1.025	0.10	85.58
1	6/ 6/80	19	0	0.079	0.0127	0.909	0.11	85.59
1	6/ 6/80	19	3	0.079	0.0127	0.909	0.16	85.64
1	6/ 6/80	19	4	0.082	0.0136	0.967	0.17	85.65
1	6/ 6/80	19	5	0.079	0.0127	0.909	0.19	85.67
1	6/ 6/80	19	8	0.067	0.0095	0.677	0.23	85.71
1	6/ 6/80	19	11	0.055	0.0068	0.485	0.26	85.74
1	6/ 6/80	19	14	0.043	0.0047	0.332	0.28	85.76
1	6/ 6/80	19	15	0.037	0.0036	0.256	0.28	85.76
1	6/ 6/80	19	17	0.030	0.0025	0.180	0.29	85.77
1	6/ 6/80	19	19	0.024	0.0020	0.144	0.29	85.78
1	6/ 6/80	19	22	0.018	0.0015	0.108	0.30	85.78
1	6/ 6/80	19	25	0.012	0.0010	0.072	0.31	85.79
1	6/ 6/80	19	29	0.006	0.0005	0.036	0.31	85.79
1	6/ 6/80	19	32	0.0	0.0	0.0	0.31	85.79
1	6/ 7/80	4	57	0.0	0.0	0.0	0.0	85.79
1	6/ 7/80	4	58	0.046	0.0052	0.370	0.00	85.79
1	6/ 7/80	4	59	0.067	0.0095	0.677	0.01	85.80
1	6/ 7/80	5	0	0.076	0.0119	0.851	0.02	85.81
1	6/ 7/80	5	1	0.085	0.0144	1.025	0.04	85.83
1	6/ 7/80	5	2	0.094	0.0171	1.216	0.06	85.85
1	6/ 7/80	5	3	0.101	0.0192	1.368	0.08	85.87
1	6/ 7/80	5	4	0.107	0.0213	1.519	0.10	85.89
1	6/ 7/80	5	5	0.116	0.0245	1.746	0.13	85.92
1	6/ 7/80	5	6	0.125	0.0280	1.994	0.16	85.95
1	6/ 7/80	5	7	0.134	0.0321	2.285	0.20	85.99
1	6/ 7/80	5	8	0.143	0.0361	2.576	0.24	86.03
1	6/ 7/80	5	10	0.146	0.0375	2.673	0.33	86.12
1	6/ 7/80	5	12	0.140	0.0348	2.479	0.41	86.20
1	6/ 7/80	5	14	0.128	0.0293	2.091	0.49	86.28
1	6/ 7/80	5	17	0.107	0.0213	1.519	0.58	86.37
1	6/ 7/80	5	18	0.101	0.0192	1.368	0.60	86.39
1	6/ 7/80	5	19	0.088	0.0152	1.083	0.62	86.41
1	6/ 7/80	5	21	0.076	0.0119	0.851	0.66	86.45
1	6/ 7/80	5	23	0.067	0.0095	0.677	0.68	86.47
1	6/ 7/80	5	24	0.061	0.0079	0.561	0.69	86.48
1	6/ 7/80	5	28	0.049	0.0057	0.409	0.72	86.51
1	6/ 7/80	5	32	0.034	0.0031	0.218	0.74	86.53
1	6/ 7/80	5	34	0.027	0.0023	0.162	0.75	86.54
1	6/ 7/80	5	38	0.018	0.0015	0.108	0.76	86.55
1	6/ 7/80	5	41	0.012	0.0010	0.072	0.76	86.55
1	6/ 7/80	5	45	0.006	0.0005	0.036	0.77	86.56
1	6/ 7/80	5	48	0.0	0.0	0.0	0.77	86.56
1	6/13/80	21	27	0.0	0.0	0.0	0.0	86.56
1	6/13/80	21	28	0.018	0.0015	0.108	0.00	86.56
1	6/13/80	21	29	0.021	0.0018	0.126	0.00	86.56
1	6/13/80	21	30	0.024	0.0020	0.144	0.01	86.56
1	6/13/80	21	33	0.027	0.0023	0.162	0.01	86.57
1	6/13/80	21	35	0.034	0.0031	0.218	0.02	86.58
1	6/13/80	21	37	0.046	0.0052	0.370	0.03	86.59
1	6/13/80	21	38	0.049	0.0057	0.409	0.04	86.59
1	6/13/80	21	41	0.052	0.0063	0.447	0.06	86.62
1	6/13/80	21	45	0.046	0.0052	0.370	0.08	86.64
1	6/13/80	21	49	0.034	0.0031	0.218	0.10	86.66
1	6/13/80	21	53	0.021	0.0018	0.126	0.12	86.67
1	6/13/80	21	56	0.009	0.0008	0.054	0.12	86.68
1	6/13/80	22	0	0.0	0.0	0.0	0.12	86.68
1	6/15/80	3	19	0.0	0.0	0.0	0.0	86.68
1	6/15/80	3	21	0.009	0.0008	0.054	0.00	86.68
1	6/15/80	3	22	0.040	0.0041	0.294	0.00	86.68
1	6/15/80	3	23	0.070	0.0103	0.735	0.01	86.69
1	6/15/80	3	24	0.088	0.0152	1.083	0.03	86.71
1	6/15/80	3	25	0.098	0.0181	1.292	0.05	86.73
1	6/15/80	3	26	0.101	0.0192	1.368	0.07	86.75
1	6/15/80	3	32	0.064	0.0087	0.619	0.17	86.85
1	6/15/80	3	34	0.052	0.0063	0.447	0.19	86.87
1	6/15/80	3	36	0.046	0.0052	0.370	0.20	86.88
1	6/15/80	3	41	0.034	0.0031	0.218	0.22	86.90
1	6/15/80	3	45	0.027	0.0023	0.162	0.24	86.92

TABLE D1- 6. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	6/15/80	3	56	0.027	0.0023	0.162	0.27	86.95
1	6/15/80	4	0	0.021	0.0018	0.126	0.28	86.96
1	6/15/80	4	3	0.015	0.0013	0.090	0.28	86.96
1	6/15/80	4	15	0.012	0.0010	0.072	0.30	86.98
1	6/15/80	4	17	0.009	0.0008	0.054	0.30	86.98
1	6/15/80	4	21	0.003	0.0003	0.018	0.30	86.98
1	6/15/80	4	25	0.0	0.0	0.0	0.30	86.98
1	7/16/80	1	29	0.0	0.0	0.0	0.0	86.98
1	7/16/80	1	30	0.015	0.0013	0.090	0.00	86.98
1	7/16/80	1	31	0.018	0.0015	0.108	0.00	86.99
1	7/16/80	1	32	0.021	0.0018	0.126	0.00	86.99
1	7/16/80	1	33	0.018	0.0015	0.108	0.01	86.99
1	7/16/80	1	34	0.015	0.0013	0.090	0.01	86.99
1	7/16/80	1	37	0.009	0.0008	0.054	0.01	86.99
1	7/16/80	1	39	0.0	0.0	0.0	0.01	87.00
1	8/ 6/80	1	55	0.0	0.0	0.0	0.0	87.00
1	8/ 6/80	1	56	0.009	0.0008	0.054	0.00	87.00
1	8/ 6/80	1	58	0.021	0.0018	0.126	0.00	87.00
1	8/ 6/80	2	0	0.034	0.0031	0.218	0.01	87.00
1	8/ 6/80	2	1	0.040	0.0041	0.294	0.01	87.01
1	8/ 6/80	2	3	0.052	0.0063	0.447	0.03	87.02
1	8/ 6/80	2	4	0.067	0.0095	0.677	0.04	87.03
1	8/ 6/80	2	5	0.082	0.0136	0.967	0.05	87.04
1	8/ 6/80	2	6	0.101	0.0192	1.368	0.07	87.06
1	8/ 6/80	2	7	0.113	0.0234	1.670	0.09	87.09
1	8/ 6/80	2	8	0.119	0.0256	1.822	0.12	87.12
1	8/ 6/80	2	9	0.125	0.0280	1.994	0.15	87.15
1	8/ 6/80	2	11	0.119	0.0256	1.822	0.22	87.21
1	8/ 6/80	2	12	0.113	0.0234	1.670	0.25	87.24
1	8/ 6/80	2	13	0.104	0.0202	1.443	0.27	87.27
1	8/ 6/80	2	14	0.091	0.0160	1.141	0.29	87.29
1	8/ 6/80	2	15	0.079	0.0127	0.909	0.31	87.31
1	8/ 6/80	2	16	0.067	0.0095	0.677	0.32	87.32
1	8/ 6/80	2	17	0.058	0.0073	0.523	0.33	87.33
1	8/ 6/80	2	18	0.052	0.0063	0.447	0.34	87.34
1	8/ 6/80	2	19	0.040	0.0041	0.294	0.35	87.34
1	8/ 6/80	2	21	0.034	0.0031	0.218	0.36	87.35
1	8/ 6/80	2	23	0.027	0.0023	0.162	0.36	87.36
1	8/ 6/80	2	25	0.030	0.0025	0.180	0.37	87.37
1	8/ 6/80	2	28	0.030	0.0025	0.180	0.38	87.37
1	8/ 6/80	2	30	0.034	0.0031	0.218	0.39	87.38
1	8/ 6/80	2	31	0.043	0.0047	0.332	0.39	87.39
1	8/ 6/80	2	32	0.052	0.0063	0.447	0.40	87.39
1	8/ 6/80	2	33	0.061	0.0079	0.561	0.40	87.40
1	8/ 6/80	2	34	0.064	0.0087	0.619	0.41	87.41
1	8/ 6/80	2	36	0.067	0.0095	0.677	0.44	87.43
1	8/ 6/80	2	37	0.064	0.0087	0.619	0.45	87.44
1	8/ 6/80	2	42	0.040	0.0041	0.294	0.49	87.48
1	8/ 6/80	2	43	0.034	0.0031	0.218	0.49	87.48
1	8/ 6/80	2	46	0.027	0.0023	0.162	0.50	87.49
1	8/ 6/80	2	47	0.021	0.0018	0.126	0.50	87.50
1	8/ 6/80	2	50	0.015	0.0013	0.090	0.51	87.50
1	8/ 6/80	2	55	0.009	0.0008	0.054	0.51	87.51
1	8/ 6/80	3	6	0.0	0.0	0.0	0.52	87.51
1	8/10/80	7	20	0.0	0.0	0.0	0.0	87.51
1	8/10/80	7	21	0.012	0.0010	0.072	0.00	87.51
1	8/10/80	7	24	0.021	0.0018	0.126	0.01	87.52
1	8/10/80	7	28	0.012	0.0010	0.072	0.01	87.53
1	8/10/80	7	33	0.006	0.0005	0.036	0.02	87.53
1	8/10/80	7	38	0.003	0.0003	0.018	0.02	87.53
1	8/10/80	8	0	0.0	0.0	0.0	0.02	87.54
1	8/11/80	4	33	0.0	0.0	0.0	0.0	87.54
1	8/11/80	4	34	0.012	0.0010	0.072	0.00	87.54
1	8/11/80	4	35	0.034	0.0031	0.218	0.00	87.54
1	8/11/80	4	36	0.067	0.0095	0.677	0.01	87.55
1	8/11/80	4	37	0.091	0.0160	1.141	0.03	87.56
1	8/11/80	4	38	0.107	0.0213	1.519	0.05	87.58
1	8/11/80	4	40	0.116	0.0245	1.746	0.10	87.64
1	8/11/80	4	41	0.119	0.0256	1.822	0.13	87.67
1	8/11/80	4	43	0.113	0.0234	1.670	0.19	87.73
1	8/11/80	4	44	0.104	0.0202	1.443	0.22	87.75
1	8/11/80	4	46	0.085	0.0144	1.025	0.26	87.79
1	8/11/80	4	47	0.076	0.0119	0.851	0.27	87.81
1	8/11/80	4	49	0.061	0.0079	0.561	0.30	87.83
1	8/11/80	4	51	0.049	0.0057	0.409	0.31	87.85
1	8/11/80	4	53	0.037	0.0036	0.256	0.32	87.86
1	8/11/80	4	56	0.030	0.0025	0.180	0.33	87.87
1	8/11/80	4	59	0.024	0.0020	0.144	0.34	87.88
1	8/11/80	5	1	0.018	0.0015	0.108	0.35	87.88
1	8/11/80	5	6	0.012	0.0010	0.072	0.35	87.89
1	8/11/80	5	18	0.0	0.0	0.0	0.36	87.90
1	8/16/80	9	52	0.0	0.0	0.0	0.0	87.90
1	8/16/80	9	57	0.015	0.0013	0.090	0.00	87.90
1	8/16/80	10	1	0.021	0.0018	0.126	0.01	87.91
1	8/16/80	10	6	0.018	0.0015	0.108	0.02	87.92
1	8/16/80	10	8	0.009	0.0008	0.054	0.02	87.92
1	8/16/80	10	10	0.003	0.0003	0.018	0.02	87.92
1	8/16/80	10	15	0.0	0.0	0.0	0.03	87.92
1	8/16/80	10	20	0.003	0.0003	0.018	0.03	87.92
1	8/16/80	10	21	0.015	0.0013	0.090	0.03	87.92
1	8/16/80	10	22	0.024	0.0020	0.144	0.03	87.93
1	8/16/80	10	23	0.040	0.0041	0.294	0.03	87.93
1	8/16/80	10	24	0.049	0.0057	0.409	0.04	87.93
1	8/16/80	10	25	0.052	0.0063	0.447	0.05	87.94

TABLE D1- 6. CONCLUDED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
1	8/16/80	10	27	0.055	0.0068	0.485	0.06	87.96
1	8/16/80	10	30	0.052	0.0063	0.447	0.08	87.98
1	8/16/80	10	32	0.049	0.0057	0.409	0.10	87.99
1	8/16/80	10	34	0.046	0.0052	0.370	0.11	88.01
1	8/16/80	10	37	0.027	0.0023	0.162	0.12	88.02
1	8/16/80	10	40	0.021	0.0018	0.126	0.13	88.03
1	8/16/80	10	43	0.018	0.0015	0.108	0.14	88.03
1	8/16/80	10	45	0.021	0.0018	0.126	0.14	88.04
1	8/16/80	10	47	0.027	0.0023	0.162	0.15	88.04
1	8/16/80	10	54	0.027	0.0023	0.162	0.17	88.06
1	8/16/80	10	58	0.021	0.0018	0.126	0.18	88.07
1	8/16/80	11	2	0.015	0.0013	0.090	0.18	88.08
1	8/16/80	11	4	0.012	0.0010	0.072	0.18	88.08
1	8/16/80	11	8	0.009	0.0008	0.054	0.19	88.09
1	8/16/80	11	16	0.006	0.0005	0.036	0.20	88.09
1	8/16/80	11	24	0.009	0.0008	0.054	0.20	88.10
1	8/16/80	11	34	0.003	0.0003	0.018	0.21	88.10
1	8/16/80	11	37	0.0	0.0	0.0	0.21	88.10
1	8/16/80	12	42	0.0	0.0	0.0	0.21	88.10
1	8/16/80	12	44	0.003	0.0003	0.018	0.21	88.10
1	8/16/80	12	48	0.012	0.0010	0.072	0.21	88.11
1	8/16/80	12	52	0.006	0.0005	0.036	0.21	88.11
1	8/16/80	12	59	0.003	0.0003	0.018	0.22	88.11
1	8/16/80	13	12	0.0	0.0	0.0	0.22	88.12
1	8/19/80	2	51	0.0	0.0	0.0	0.0	88.12
1	8/19/80	2	53	0.015	0.0013	0.090	0.00	88.12
1	8/19/80	2	54	0.021	0.0018	0.126	0.00	88.12
1	8/19/80	2	56	0.027	0.0023	0.162	0.01	88.12
1	8/19/80	2	59	0.021	0.0018	0.126	0.02	88.13
1	8/19/80	3	0	0.018	0.0015	0.108	0.02	88.13
1	8/19/80	3	2	0.009	0.0008	0.054	0.02	88.14
1	8/19/80	3	5	0.0	0.0	0.0	0.02	88.14
1	9/ 4/80	3	24	0.0	0.0	0.0	0.0	88.14
1	9/ 4/80	3	25	0.012	0.0010	0.072	0.00	88.14
1	9/ 4/80	3	27	0.018	0.0015	0.108	0.00	88.14
1	9/ 4/80	3	29	0.027	0.0023	0.162	0.01	88.14
1	9/ 4/80	3	31	0.037	0.0036	0.256	0.02	88.15
1	9/ 4/80	3	34	0.027	0.0023	0.162	0.03	88.16
1	9/ 4/80	3	35	0.021	0.0018	0.126	0.03	88.16
1	9/ 4/80	3	38	0.009	0.0008	0.054	0.03	88.17
1	9/ 4/80	3	41	0.0	0.0	0.0	0.03	88.17
1	9/ 9/80	1	5	0.0	0.0	0.0	0.0	88.17
1	9/ 9/80	1	7	0.015	0.0013	0.090	0.00	88.17
1	9/ 9/80	1	8	0.030	0.0025	0.180	0.00	88.17
1	9/ 9/80	1	10	0.040	0.0041	0.294	0.01	88.18
1	9/ 9/80	1	12	0.034	0.0031	0.218	0.02	88.19
1	9/ 9/80	1	13	0.027	0.0023	0.162	0.02	88.19
1	9/ 9/80	1	15	0.021	0.0018	0.126	0.03	88.20
1	9/ 9/80	1	16	0.015	0.0013	0.090	0.03	88.20
1	9/ 9/80	1	17	0.009	0.0008	0.054	0.03	88.20
1	9/ 9/80	1	21	0.0	0.0	0.0	0.03	88.20
1	9/12/80	3	50	0.0	0.0	0.0	0.0	88.20
1	9/12/80	3	52	0.015	0.0013	0.090	0.00	88.20
1	9/12/80	3	53	0.024	0.0020	0.144	0.00	88.21
1	9/12/80	3	54	0.034	0.0031	0.218	0.01	88.21
1	9/12/80	3	56	0.040	0.0041	0.294	0.01	88.22
1	9/12/80	3	58	0.034	0.0031	0.218	0.02	88.23
1	9/12/80	4	0	0.027	0.0023	0.162	0.03	88.23
1	9/12/80	4	2	0.021	0.0018	0.126	0.03	88.24
1	9/12/80	4	3	0.015	0.0013	0.090	0.04	88.24
1	9/12/80	4	5	0.009	0.0008	0.054	0.04	88.24
1	9/12/80	4	8	0.0	0.0	0.0	0.04	88.24

TABLE D1- 7. FOUR MILE CREEK WATERSHED RUNOFF DATA FOR 1980 SITE 2

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	1/16/80	13	30	0.0	0.0	0.0	0.0	0.0
2	1/16/80	15	20	0.046	0.0052	0.294	0.27	0.27
2	1/16/80	17	18	0.094	0.0171	0.964	1.51	1.51
2	1/16/80	22	16	0.006	0.0005	0.028	3.77	3.97
2	1/16/80	22	30	0.0	0.0	0.0	3.97	3.97
2	1/25/80	12	39	0.0	0.0	0.0	0.0	3.97
2	1/25/80	12	40	0.003	0.0003	0.014	0.00	3.97
2	1/25/80	13	10	0.003	0.0003	0.014	0.01	3.98
2	1/25/80	13	11	0.0	0.0	0.0	0.01	3.98
2	2/20/80	16	37	0.0	0.0	0.0	0.0	3.98
2	2/20/80	23	59	0.006	0.0005	0.028	0.10	4.09
2	2/21/80	0	25	0.009	0.0008	0.043	0.12	4.10
2	2/21/80	2	25	0.012	0.0010	0.057	0.22	4.20
2	2/21/80	4	5	0.018	0.0015	0.085	0.34	4.32
2	2/21/80	5	17	0.018	0.0015	0.085	0.44	4.42
2	2/21/80	6	52	0.021	0.0018	0.100	0.59	4.57
2	2/21/80	7	45	0.024	0.0020	0.114	0.68	4.66
2	2/21/80	8	31	0.027	0.0023	0.128	0.78	4.76
2	2/21/80	8	54	0.030	0.0025	0.142	0.83	4.81
2	2/21/80	9	8	0.037	0.0036	0.203	0.87	4.85
2	2/21/80	9	25	0.043	0.0047	0.263	0.93	4.92
2	2/21/80	9	47	0.049	0.0057	0.324	1.04	5.02
2	2/21/80	10	15	0.052	0.0063	0.354	1.20	5.18
2	2/21/80	10	18	0.055	0.0068	0.384	1.22	5.20
2	2/21/80	10	24	0.058	0.0073	0.415	1.26	5.24
2	2/21/80	10	30	0.061	0.0079	0.445	1.30	5.28
2	2/21/80	10	32	0.067	0.0095	0.537	1.32	5.30
2	2/21/80	10	38	0.073	0.0111	0.629	1.38	5.36
2	2/21/80	10	45	0.079	0.0127	0.720	1.45	5.44
2	2/21/80	11	17	0.073	0.0111	0.629	1.81	5.80
2	2/21/80	11	32	0.073	0.0111	0.629	1.97	5.95
2	2/21/80	11	38	0.067	0.0095	0.537	2.03	6.01
2	2/21/80	11	45	0.076	0.0119	0.675	2.10	6.08
2	2/21/80	11	51	0.085	0.0144	0.812	2.17	6.16
2	2/21/80	11	53	0.088	0.0152	0.858	2.20	6.18
2	2/21/80	12	0	0.091	0.0160	0.904	2.30	6.29
2	2/21/80	12	7	0.104	0.0202	1.144	2.42	6.41
2	2/21/80	12	11	0.116	0.0245	1.384	2.51	6.49
2	2/21/80	12	16	0.128	0.0293	1.658	2.64	6.62
2	2/21/80	12	22	0.140	0.0348	1.965	2.82	6.80
2	2/21/80	12	37	0.152	0.0402	2.272	3.35	7.33
2	2/21/80	12	53	0.146	0.0375	2.119	3.93	7.91
2	2/21/80	13	9	0.140	0.0348	1.965	4.48	8.46
2	2/21/80	13	18	0.137	0.0334	1.888	4.77	8.75
2	2/21/80	13	22	0.134	0.0321	1.812	4.89	8.87
2	2/21/80	13	37	0.128	0.0293	1.658	5.32	9.30
2	2/21/80	13	51	0.125	0.0280	1.581	5.70	9.68
2	2/21/80	14	5	0.119	0.0256	1.444	6.05	10.03
2	2/21/80	14	15	0.116	0.0245	1.384	6.29	10.27
2	2/21/80	14	25	0.113	0.0234	1.324	6.51	10.50
2	2/21/80	14	31	0.110	0.0224	1.264	6.64	10.63
2	2/21/80	14	57	0.110	0.0224	1.264	7.19	11.17
2	2/21/80	15	3	0.116	0.0245	1.384	7.32	11.31
2	2/21/80	15	21	0.110	0.0224	1.264	7.72	11.70
2	2/21/80	15	40	0.104	0.0202	1.144	8.10	12.08
2	2/21/80	15	58	0.098	0.0181	1.024	8.43	12.41
2	2/21/80	16	25	0.091	0.0160	0.904	8.86	12.84
2	2/21/80	16	53	0.085	0.0144	0.812	9.26	13.24
2	2/21/80	17	19	0.079	0.0127	0.720	9.59	13.58
2	2/21/80	17	49	0.073	0.0111	0.629	9.93	13.91
2	2/21/80	18	53	0.067	0.0095	0.537	10.55	14.54
2	2/21/80	19	57	0.061	0.0079	0.445	11.08	15.06
2	2/21/80	20	31	0.058	0.0073	0.415	11.32	15.30
2	2/21/80	21	27	0.055	0.0068	0.384	11.69	15.68
2	2/21/80	22	10	0.052	0.0063	0.354	11.96	15.94
2	2/21/80	22	45	0.049	0.0057	0.324	12.16	16.14
2	2/21/80	23	13	0.046	0.0052	0.294	12.30	16.28
2	2/22/80	0	7	0.043	0.0047	0.263	12.55	16.53
2	2/22/80	1	49	0.040	0.0041	0.233	12.97	16.95
2	2/22/80	3	21	0.037	0.0036	0.203	13.31	17.29
2	2/22/80	4	43	0.034	0.0031	0.173	13.56	17.55
2	2/22/80	5	31	0.030	0.0025	0.142	13.69	17.67
2	2/22/80	6	36	0.027	0.0023	0.128	13.84	17.82
2	2/22/80	8	1	0.024	0.0020	0.114	14.01	17.99
2	2/22/80	8	29	0.024	0.0020	0.114	14.06	18.04
2	2/22/80	9	11	0.027	0.0023	0.128	14.15	18.13
2	2/22/80	9	26	0.030	0.0025	0.142	14.18	18.16
2	2/22/80	9	45	0.034	0.0031	0.173	14.23	18.21
2	2/22/80	10	21	0.037	0.0036	0.203	14.34	18.32
2	2/22/80	10	37	0.040	0.0041	0.233	14.40	18.38
2	2/22/80	10	47	0.043	0.0047	0.263	14.44	18.42
2	2/22/80	11	6	0.046	0.0052	0.294	14.53	18.51
2	2/22/80	11	11	0.049	0.0057	0.324	14.56	18.54
2	2/22/80	11	26	0.052	0.0063	0.354	14.64	18.62
2	2/22/80	11	46	0.055	0.0068	0.384	14.76	18.75
2	2/22/80	12	24	0.058	0.0073	0.415	15.02	19.00
2	2/22/80	13	42	0.055	0.0068	0.384	15.54	19.52
2	2/22/80	15	26	0.055	0.0068	0.384	16.20	20.18
2	2/22/80	15	55	0.052	0.0063	0.354	16.38	20.36
2	2/22/80	16	19	0.049	0.0057	0.324	16.52	20.50
2	2/22/80	16	48	0.043	0.0047	0.263	16.66	20.64
2	2/22/80	17	37	0.037	0.0036	0.203	16.85	20.83
2	2/22/80	18	24	0.030	0.0025	0.142	16.98	20.97
2	2/22/80	19	44	0.024	0.0020	0.114	17.15	21.14
2	2/22/80	20	39	0.021	0.0018	0.100	17.25	21.23
2	2/22/80	22	32	0.018	0.0015	0.085	17.43	21.41
2	2/22/80	23	25	0.015	0.0013	0.071	17.50	21.48
2	2/23/80	0	30	0.012	0.0010	0.057	17.57	21.55
2	2/23/80	0	44	0.009	0.0008	0.043	17.58	21.56
2	2/23/80	0	59	0.0	0.0	0.0	17.58	21.56

TABLE D1- 7. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	2/23/80	1	48	0.0	0.0	0.0	17.58	21.56
2	2/23/80	1	52	0.012	0.0010	0.057	17.58	21.57
2	2/23/80	2	4	0.015	0.0013	0.071	17.60	21.58
2	2/23/80	2	25	0.018	0.0015	0.085	17.62	21.61
2	2/23/80	2	38	0.024	0.0020	0.114	17.65	21.63
2	2/23/80	2	49	0.027	0.0023	0.128	17.67	21.65
2	2/23/80	3	4	0.030	0.0025	0.142	17.70	21.68
2	2/23/80	3	14	0.034	0.0031	0.173	17.73	21.71
2	2/23/80	3	30	0.037	0.0036	0.203	17.84	21.82
2	2/23/80	4	34	0.040	0.0041	0.233	18.00	21.98
2	2/23/80	8	33	0.043	0.0047	0.263	18.98	22.96
2	2/23/80	9	33	0.043	0.0047	0.263	19.25	23.24
2	2/23/80	10	53	0.040	0.0041	0.233	19.59	23.57
2	2/23/80	11	5	0.037	0.0036	0.203	19.63	23.61
2	2/23/80	11	23	0.027	0.0023	0.128	19.68	23.66
2	2/23/80	11	30	0.021	0.0018	0.100	19.69	23.67
2	2/23/80	12	7	0.018	0.0015	0.085	19.75	23.73
2	2/23/80	12	47	0.021	0.0018	0.100	19.81	23.79
2	2/23/80	12	50	0.012	0.0010	0.057	19.81	23.80
2	2/23/80	13	5	0.015	0.0013	0.071	19.83	23.81
2	2/23/80	13	12	0.018	0.0015	0.085	19.84	23.82
2	2/23/80	13	18	0.021	0.0018	0.100	19.85	23.83
2	2/23/80	14	44	0.021	0.0018	0.100	19.99	23.97
2	2/23/80	15	17	0.018	0.0015	0.085	20.04	24.02
2	2/23/80	16	15	0.018	0.0015	0.085	20.13	24.11
2	2/23/80	15	34	0.015	0.0013	0.071	20.15	24.13
2	2/23/80	17	28	0.012	0.0010	0.057	20.21	24.19
2	2/23/80	17	36	0.012	0.0010	0.057	20.22	24.20
2	2/23/80	17	41	0.018	0.0015	0.085	20.22	24.20
2	2/23/80	17	45	0.024	0.0020	0.114	20.23	24.21
2	2/23/80	17	51	0.030	0.0025	0.142	20.24	24.22
2	2/23/80	18	0	0.040	0.0041	0.233	20.27	24.25
2	2/23/80	18	12	0.046	0.0052	0.294	20.32	24.30
2	2/23/80	18	20	0.049	0.0057	0.324	20.36	24.34
2	2/23/80	18	36	0.052	0.0063	0.354	20.45	24.43
2	2/23/80	19	22	0.055	0.0068	0.384	20.74	24.72
2	2/23/80	21	37	0.052	0.0063	0.354	21.57	25.55
2	2/23/80	22	29	0.049	0.0057	0.324	21.86	25.84
2	2/23/80	22	59	0.046	0.0052	0.294	22.02	26.00
2	2/23/80	23	29	0.043	0.0047	0.263	22.15	26.14
2	2/23/80	23	44	0.040	0.0041	0.233	22.22	26.20
2	2/24/80	0	4	0.037	0.0036	0.203	22.29	26.27
2	2/24/80	0	34	0.034	0.0031	0.173	22.38	26.36
2	2/24/80	1	12	0.030	0.0025	0.142	22.48	26.46
2	2/24/80	2	31	0.024	0.0020	0.114	22.65	26.63
2	2/24/80	3	28	0.021	0.0018	0.100	22.75	26.73
2	2/24/80	6	5	0.024	0.0020	0.114	23.03	27.01
2	2/24/80	9	4	0.024	0.0020	0.114	23.37	27.35
2	2/24/80	9	26	0.018	0.0015	0.085	23.41	27.39
2	2/24/80	9	37	0.012	0.0010	0.057	23.42	27.40
2	2/24/80	10	0	0.0	0.0	0.0	23.43	27.41

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	3/ 9/80	14	30	0.0	0.0	0.0	0.0	27.41
2	3/ 9/80	15	4	0.018	0.0015	0.085	0.02	27.44
2	3/ 9/80	15	16	0.012	0.0010	0.057	0.04	27.45
2	3/ 9/80	15	28	0.0	0.0	0.0	0.04	27.46
2	3/ 9/80	15	31	0.006	0.0005	0.028	0.04	27.46
2	3/ 9/80	15	48	0.012	0.0010	0.057	0.06	27.47
2	3/ 9/80	15	56	0.018	0.0015	0.085	0.07	27.48
2	3/ 9/80	15	58	0.021	0.0018	0.100	0.07	27.48
2	3/ 9/80	16	3	0.024	0.0020	0.114	0.08	27.49
2	3/ 9/80	16	7	0.030	0.0025	0.142	0.09	27.50
2	3/ 9/80	16	15	0.027	0.0023	0.128	0.11	27.52
2	3/ 9/80	16	28	0.024	0.0020	0.114	0.13	27.55
2	3/ 9/80	17	8	0.021	0.0018	0.100	0.20	27.62
2	3/ 9/80	17	56	0.018	0.0015	0.085	0.28	27.69
2	3/ 9/80	19	56	0.018	0.0015	0.085	0.45	27.86
2	3/ 9/80	20	20	0.021	0.0018	0.100	0.48	27.90
2	3/ 9/80	20	52	0.024	0.0020	0.114	0.54	27.96
2	3/ 9/80	21	44	0.027	0.0023	0.128	0.65	28.06
2	3/10/80	0	20	0.030	0.0025	0.142	1.00	28.41
2	3/10/80	2	0	0.030	0.0025	0.142	1.24	28.65
2	3/10/80	3	0	0.027	0.0023	0.128	1.37	28.79
2	3/10/80	7	16	0.024	0.0020	0.114	1.89	29.30
2	3/10/80	7	46	0.015	0.0013	0.071	1.93	29.35
2	3/10/80	7	59	0.012	0.0010	0.057	1.95	29.36
2	3/10/80	8	13	0.009	0.0008	0.043	1.96	29.37
2	3/10/80	9	0	0.0	0.0	0.0	1.98	29.39
2	3/14/80	12	44	0.0	0.0	0.0	0.0	29.39
2	3/14/80	12	46	0.006	0.0005	0.028	0.00	29.39
2	3/14/80	12	53	0.012	0.0010	0.057	0.01	29.40
2	3/14/80	13	2	0.018	0.0015	0.085	0.02	29.41
2	3/14/80	13	8	0.021	0.0018	0.100	0.03	29.42
2	3/14/80	13	22	0.018	0.0015	0.085	0.05	29.44
2	3/14/80	13	32	0.021	0.0018	0.100	0.06	29.45
2	3/14/80	13	38	0.018	0.0015	0.085	0.07	29.46
2	3/14/80	14	40	0.024	0.0020	0.114	0.17	29.57
2	3/14/80	15	18	0.027	0.0023	0.128	0.25	29.64
2	3/14/80	15	40	0.030	0.0025	0.142	0.30	29.69
2	3/14/80	15	53	0.034	0.0031	0.173	0.34	29.73
2	3/14/80	17	30	0.034	0.0031	0.173	0.61	30.00
2	3/14/80	17	55	0.030	0.0025	0.142	0.68	30.07
2	3/14/80	18	4	0.027	0.0023	0.128	0.70	30.09
2	3/14/80	18	7	0.024	0.0020	0.114	0.71	30.10
2	3/14/80	18	16	0.018	0.0015	0.085	0.72	30.11
2	3/14/80	18	27	0.015	0.0013	0.071	0.74	30.13
2	3/14/80	20	12	0.018	0.0015	0.085	0.87	30.26
2	3/14/80	21	25	0.021	0.0018	0.100	0.99	30.38
2	3/14/80	22	0	0.024	0.0020	0.114	1.05	30.44
2	3/14/80	22	30	0.027	0.0023	0.128	1.11	30.50
2	3/14/80	23	22	0.030	0.0025	0.142	1.23	30.62

TABLE D1- 7. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	3/14/80	23	52	0.034	0.0031	0.173	1.30	30.69
2	3/15/80	0	8	0.037	0.0036	0.203	1.35	30.74
2	3/15/80	0	34	0.040	0.0041	0.233	1.45	30.84
2	3/15/80	1	2	0.043	0.0047	0.263	1.56	30.96
2	3/15/80	1	32	0.046	0.0052	0.294	1.70	31.09
2	3/15/80	2	24	0.049	0.0057	0.324	1.97	31.36
2	3/15/80	4	6	0.046	0.0052	0.294	2.50	31.89
2	3/15/80	5	8	0.043	0.0047	0.263	2.78	32.17
2	3/15/80	6	32	0.040	0.0041	0.233	3.13	32.52
2	3/15/80	6	47	0.043	0.0047	0.263	3.19	32.58
2	3/15/80	7	1	0.049	0.0057	0.324	3.26	32.65
2	3/15/80	7	10	0.055	0.0068	0.384	3.32	32.71
2	3/15/80	7	16	0.061	0.0079	0.445	3.36	32.75
2	3/15/80	7	21	0.070	0.0103	0.583	3.40	32.79
2	3/15/80	7	24	0.076	0.0119	0.675	3.43	32.82
2	3/15/80	7	28	0.082	0.0136	0.766	3.48	32.87
2	3/15/80	7	37	0.082	0.0136	0.766	3.59	32.98
2	3/15/80	7	38	0.073	0.0111	0.629	3.61	33.00
2	3/15/80	7	40	0.658	0.0073	0.415	3.62	33.01
2	3/15/80	7	44	0.049	0.0057	0.324	3.65	33.04
2	3/15/80	7	48	0.043	0.0047	0.263	3.67	33.06
2	3/15/80	7	56	0.037	0.0036	0.203	3.70	33.09
2	3/15/80	8	4	0.034	0.0031	0.173	3.72	33.11
2	3/15/80	8	15	0.030	0.0025	0.142	3.75	33.14
2	3/15/80	8	28	0.030	0.0025	0.142	3.78	33.17
2	3/15/80	8	40	0.024	0.0020	0.114	3.81	33.20
2	3/15/80	8	52	0.021	0.0018	0.100	3.83	33.22
2	3/15/80	9	17	0.021	0.0018	0.100	3.87	33.26
2	3/15/80	9	40	0.024	0.0020	0.114	3.91	33.30
2	3/15/80	9	53	0.027	0.0023	0.128	3.94	33.33
2	3/15/80	10	5	0.030	0.0025	0.142	3.97	33.36
2	3/15/80	10	12	0.034	0.0031	0.173	3.99	33.37
2	3/15/80	10	24	0.037	0.0036	0.203	4.02	33.41
2	3/15/80	10	52	0.040	0.0041	0.233	4.12	33.51
2	3/15/80	11	10	0.043	0.0047	0.263	4.20	33.59
2	3/15/80	11	24	0.049	0.0057	0.324	4.27	33.66
2	3/15/80	11	39	0.055	0.0068	0.384	4.36	33.75
2	3/15/80	11	47	0.058	0.0073	0.415	4.41	33.80
2	3/15/80	11	55	0.064	0.0087	0.491	4.47	33.86
2	3/15/80	12	1	0.070	0.0103	0.583	4.52	33.91
2	3/15/80	12	4	0.073	0.0111	0.629	4.55	33.94
2	3/15/80	12	6	0.082	0.0136	0.766	4.58	33.97
2	3/15/80	12	8	0.101	0.0192	1.084	4.61	34.00
2	3/15/80	12	10	0.122	0.0266	1.504	4.65	34.04
2	3/15/80	12	36	0.152	0.0402	2.272	5.47	34.86
2	3/15/80	12	48	0.165	0.0469	2.650	5.96	35.35
2	3/15/80	12	50	0.171	0.0502	2.839	6.05	35.44
2	3/15/80	12	57	0.174	0.0519	2.933	6.39	35.78
2	3/15/80	13	8	0.177	0.0536	3.028	6.94	36.33
2	3/15/80	13	11	0.183	0.0569	3.217	7.09	36.48
2	3/15/80	13	24	0.189	0.0609	3.441	7.81	37.20
2	3/15/80	13	39	0.195	0.0648	3.665	8.70	38.09
2	3/15/80	13	52	0.201	0.0688	3.889	9.52	38.91
2	3/15/80	14	4	0.198	0.0668	3.777	10.29	39.68
2	3/15/80	14	6	0.189	0.0609	3.441	10.41	39.80
2	3/15/80	14	18	0.192	0.0629	3.553	11.11	40.50
2	3/15/80	14	30	0.195	0.0648	3.665	11.83	41.22
2	3/15/80	14	40	0.183	0.0569	3.217	12.40	41.79
2	3/15/80	14	48	0.195	0.0648	3.665	12.86	42.25
2	3/15/80	14	52	0.189	0.0609	3.441	13.10	42.49
2	3/15/80	15	1	0.183	0.0569	3.217	13.60	42.99
2	3/15/80	15	6	0.177	0.0536	3.028	13.86	43.25
2	3/15/80	15	22	0.171	0.0502	2.839	14.64	44.03
2	3/15/80	15	30	0.165	0.0469	2.650	15.00	44.39
2	3/15/80	15	40	0.158	0.0436	2.461	15.43	44.82
2	3/15/80	15	46	0.152	0.0402	2.272	15.67	45.06
2	3/15/80	16	3	0.146	0.0375	2.119	16.29	45.68
2	3/15/80	16	15	0.143	0.0361	2.042	16.70	46.09
2	3/15/80	16	17	0.137	0.0334	1.888	16.77	46.16
2	3/15/80	16	20	0.134	0.0321	1.812	16.86	46.25
2	3/15/80	16	36	0.128	0.0293	1.658	17.32	46.71
2	3/15/80	16	49	0.122	0.0266	1.504	17.67	47.06
2	3/15/80	16	56	0.116	0.0245	1.384	17.84	47.23
2	3/15/80	17	7	0.104	0.0202	1.144	18.07	47.46
2	3/15/80	17	18	0.098	0.0181	1.024	18.27	47.66
2	3/15/80	17	32	0.091	0.0160	0.904	18.49	47.88
2	3/15/80	17	40	0.088	0.0152	0.858	18.61	48.00
2	3/15/80	17	44	0.085	0.0144	0.812	18.66	48.05
2	3/15/80	18	4	0.082	0.0136	0.766	18.93	48.32
2	3/15/80	18	20	0.079	0.0127	0.720	19.13	48.52
2	3/15/80	18	32	0.073	0.0111	0.629	19.26	48.65
2	3/15/80	18	44	0.067	0.0095	0.537	19.38	48.77
2	3/15/80	19	26	0.061	0.0079	0.445	19.72	49.11
2	3/15/80	19	45	0.058	0.0073	0.415	19.86	49.25
2	3/15/80	20	20	0.055	0.0068	0.384	20.09	49.48
2	3/15/80	20	48	0.049	0.0057	0.324	20.26	49.65
2	3/15/80	21	27	0.049	0.0057	0.324	20.47	49.86
2	3/15/80	22	40	0.046	0.0052	0.294	20.84	50.23
2	3/15/80	23	38	0.043	0.0047	0.263	21.11	50.50
2	3/16/80	0	52	0.040	0.0041	0.233	21.42	50.81
2	3/16/80	2	36	0.040	0.0041	0.233	21.82	51.21
2	3/16/80	3	20	0.037	0.0036	0.203	21.98	51.37
2	3/16/80	4	8	0.037	0.0036	0.203	22.14	51.53
2	3/16/80	5	24	0.034	0.0031	0.173	22.38	51.77
2	3/16/80	6	24	0.034	0.0031	0.173	22.55	51.94
2	3/16/80	6	52	0.030	0.0025	0.142	22.63	52.02
2	3/16/80	7	24	0.027	0.0023	0.128	22.70	52.09
2	3/16/80	7	40	0.024	0.0020	0.114	22.73	52.12
2	3/16/80	7	52	0.027	0.0023	0.128	22.76	52.15
2	3/16/80	8	16	0.030	0.0025	0.142	22.81	52.20
2	3/16/80	8	35	0.034	0.0031	0.173	22.86	52.25
2	3/16/80	8	46	0.037	0.0036	0.203	22.89	52.28
2	3/16/80	9	6	0.040	0.0041	0.233	22.97	52.36
2	3/16/80	9	28	0.043	0.0047	0.263	23.06	52.45

TABLE D1- 7. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	3/16/80	10	0	0.046	0.0052	0.294	23.21	52.60
2	3/16/80	10	28	0.049	0.0057	0.324	23.35	52.74
2	3/16/80	12	12	0.049	0.0057	0.324	23.91	53.30
2	3/16/80	12	31	0.046	0.0052	0.294	24.01	53.40
2	3/16/80	12	42	0.043	0.0047	0.263	24.06	53.45
2	3/16/80	13	23	0.030	0.0025	0.142	24.20	53.59
2	3/16/80	13	22	0.030	0.0025	0.142	24.34	53.73
2	3/16/80	13	52	0.027	0.0023	0.128	24.41	53.80
2	3/16/80	15	20	0.024	0.0020	0.114	24.46	53.85
2	3/16/80	15	46	0.021	0.0018	0.100	24.51	53.90
2	3/16/80	15	24	0.018	0.0015	0.085	24.57	53.96
2	3/16/80	16	55	0.015	0.0013	0.071	24.61	54.00
2	3/16/80	17	16	0.012	0.0010	0.057	24.63	54.02
2	3/16/80	17	42	0.009	0.0008	0.043	24.65	54.04
2	3/16/80	18	10	0.006	0.0005	0.028	24.67	54.06
2	3/16/80	18	30	0.0	0.0	0.0	24.68	54.07
2	4/ 3/80	3	54	0.0	0.0	0.0	0.0	54.07
2	4/ 3/80	3	58	0.006	0.0005	0.028	0.00	54.07
2	4/ 3/80	4	0	0.012	0.0010	0.057	0.00	54.07
2	4/ 3/80	4	7	0.021	0.0018	0.100	0.01	54.08
2	4/ 3/80	4	12	0.015	0.0013	0.071	0.02	54.09
2	4/ 3/80	4	13	0.012	0.0010	0.057	0.02	54.09
2	4/ 3/80	4	17	0.006	0.0005	0.028	0.02	54.09
2	4/ 3/80	4	22	0.0	0.0	0.0	0.02	54.09
2	4/ 3/80	4	56	0.0	0.0	0.0	0.02	54.09
2	4/ 3/80	5	0	0.015	0.0013	0.071	0.03	54.09
2	4/ 3/80	5	4	0.012	0.0010	0.057	0.03	54.10
2	4/ 3/80	5	6	0.006	0.0005	0.028	0.03	54.10
2	4/ 3/80	5	10	0.0	0.0	0.0	0.03	54.10
2	4/ 3/80	5	34	0.0	0.0	0.0	0.03	54.10
2	4/ 3/80	5	36	0.006	0.0005	0.028	0.03	54.10
2	4/ 3/80	5	45	0.0	0.0	0.0	0.04	54.10
2	4/ 3/80	11	54	0.0	0.0	0.0	0.04	54.10
2	4/ 3/80	11	56	0.012	0.0010	0.057	0.04	54.10
2	4/ 3/80	12	0	0.024	0.0020	0.114	0.04	54.11
2	4/ 3/80	12	8	0.012	0.0010	0.057	0.05	54.12
2	4/ 3/80	12	18	0.006	0.0005	0.028	0.06	54.13
2	4/ 3/80	12	24	0.012	0.0010	0.057	0.06	54.13
2	4/ 3/80	12	26	0.015	0.0013	0.071	0.07	54.13
2	4/ 3/80	12	38	0.006	0.0005	0.028	0.08	54.14
2	4/ 3/80	12	44	0.003	0.0003	0.014	0.08	54.15
2	4/ 3/80	12	52	0.003	0.0003	0.014	0.08	54.15
2	4/ 3/80	12	58	0.006	0.0005	0.028	0.08	54.15
2	4/ 3/80	13	4	0.012	0.0010	0.057	0.09	54.15
2	4/ 3/80	13	16	0.009	0.0008	0.043	0.10	54.16
2	4/ 3/80	13	27	0.012	0.0010	0.057	0.11	54.17
2	4/ 3/80	13	40	0.006	0.0005	0.028	0.12	54.18
2	4/ 3/80	13	52	0.006	0.0005	0.028	0.12	54.19
2	4/ 3/80	14	2	0.003	0.0003	0.014	0.12	54.19
2	4/ 3/80	14	20	0.0	0.0	0.0	0.13	54.19

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	5/29/80	7	29	0.0	0.0	0.0	0.13	54.19
2	5/29/80	7	30	0.024	0.0020	0.114	0.13	54.19
2	5/29/80	7	31	0.040	0.0041	0.233	0.13	54.20
2	5/29/80	7	32	0.055	0.0068	0.384	0.14	54.20
2	5/29/80	7	33	0.064	0.0087	0.491	0.14	54.21
2	5/29/80	7	34	0.070	0.0103	0.583	0.15	54.22
2	5/29/80	7	36	0.079	0.0127	0.720	0.17	54.24
2	5/29/80	7	37	0.155	0.0469	2.650	0.20	54.27
2	5/29/80	7	38	0.317	0.1710	9.666	0.30	54.37
2	5/29/80	7	39	0.381	0.2493	14.091	0.50	54.57
2	5/29/80	7	40	0.387	0.2578	14.568	0.74	54.81
2	5/29/80	7	41	0.372	0.2367	13.375	0.97	55.04
2	5/29/80	7	42	0.354	0.2135	12.066	1.19	55.25
2	5/29/80	7	43	0.326	0.1812	10.242	1.37	55.44
2	5/29/80	7	44	0.299	0.1513	8.552	1.53	55.60
2	5/29/80	7	45	0.274	0.1269	7.169	1.66	55.73
2	5/29/80	7	46	0.250	0.1053	5.953	1.77	55.84
2	5/29/80	7	47	0.244	0.1000	5.649	1.87	55.93
2	5/29/80	7	48	0.232	0.0907	5.124	1.96	56.02
2	5/29/80	7	49	0.223	0.0837	4.731	2.04	56.10
2	5/29/80	7	50	0.216	0.0791	4.468	2.11	56.18
2	5/29/80	7	54	0.201	0.0688	3.889	2.39	56.46
2	5/29/80	7	55	0.192	0.0629	3.553	2.46	56.52
2	5/29/80	7	56	0.183	0.0569	3.217	2.51	56.58
2	5/29/80	7	58	0.180	0.0552	3.122	2.62	56.68
2	5/29/80	8	0	0.171	0.0502	2.839	2.72	56.78
2	5/29/80	8	4	0.165	0.0469	2.650	2.90	56.97
2	5/29/80	8	7	0.143	0.0361	2.042	3.02	57.08
2	5/29/80	8	9	0.125	0.0280	1.581	3.09	57.14
2	5/29/80	8	11	0.107	0.0213	1.204	3.12	57.19
2	5/29/80	8	13	0.091	0.0160	0.904	3.16	57.23
2	5/29/80	8	17	0.073	0.0111	0.629	3.21	57.28
2	5/29/80	8	19	0.061	0.0079	0.445	3.23	57.29
2	5/29/80	8	24	0.055	0.0068	0.384	3.26	57.33
2	5/29/80	8	28	0.043	0.0047	0.263	3.28	57.35
2	5/29/80	8	30	0.049	0.0057	0.324	3.29	57.36
2	5/29/80	8	31	0.076	0.0119	0.675	3.30	57.37
2	5/29/80	8	32	0.146	0.0375	2.119	3.33	57.39
2	5/29/80	8	33	0.305	0.1574	8.898	3.42	57.48
2	5/29/80	8	34	0.445	0.3477	19.652	3.66	57.72
2	5/29/80	8	35	0.604	0.8325	47.049	4.21	58.28
2	5/29/80	8	36	0.750	1.0913	61.676	5.12	59.18
2	5/29/80	8	37	0.799	1.2567	71.022	6.22	60.29
2	5/29/80	8	38	0.808	1.2898	72.895	7.42	61.49
2	5/29/80	8	39	0.789	1.2241	69.182	8.61	62.67
2	5/29/80	8	40	0.768	1.1508	65.037	9.72	63.79
2	5/29/80	8	41	0.747	1.0817	61.132	10.78	64.84
2	5/29/80	8	42	0.707	0.9565	54.059	11.74	65.80
2	5/29/80	8	43	0.655	0.8070	45.609	12.57	66.63
2	5/29/80	8	44	0.604	0.6734	38.056	13.26	67.33
2	5/29/80	8	45	0.534	0.5250	29.670	13.83	67.89
2	5/29/80	8	46	0.479	0.4058	22.933	14.27	68.33

TABLE D1- 7. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	5/29/80	6	47	0.411	0.2938	16.603	14.60	68.66
2	5/29/80	8	48	0.360	0.2209	12.483	14.84	68.90
2	5/29/80	8	49	0.305	0.1574	8.896	15.02	69.08
2	5/29/80	8	50	0.268	0.1215	6.865	15.15	69.21
2	5/29/80	8	51	0.241	0.0976	5.518	15.25	69.32
2	5/29/80	8	52	0.213	0.0767	4.337	15.33	69.40
2	5/29/80	8	53	0.186	0.0589	3.329	15.40	69.46
2	5/29/80	8	54	0.165	0.0469	2.650	15.45	69.51
2	5/29/80	8	55	0.152	0.0402	2.272	15.49	69.55
2	5/29/80	8	57	0.134	0.0321	1.812	15.56	69.62
2	5/29/80	8	58	0.122	0.0266	1.504	15.58	69.65
2	5/29/80	8	59	0.113	0.0234	1.324	15.61	69.67
2	5/29/80	9	0	0.104	0.0202	1.144	15.63	69.69
2	5/29/80	9	3	0.082	0.0136	0.766	15.68	69.74
2	5/29/80	9	5	0.067	0.0095	0.537	15.70	69.76
2	5/29/80	9	8	0.055	0.0068	0.384	15.72	69.79
2	5/29/80	9	12	0.037	0.0036	0.203	15.74	69.81
2	5/29/80	9	14	0.030	0.0025	0.142	15.75	69.81
2	5/29/80	9	16	0.021	0.0018	0.100	15.75	69.82
2	5/29/80	9	23	0.006	0.0005	0.028	15.76	69.82
2	5/29/80	9	34	0.003	0.0003	0.014	15.76	69.83
2	5/29/80	9	45	0.006	0.0005	0.028	15.76	69.83
2	5/29/80	9	47	0.012	0.0010	0.057	15.77	69.83
2	5/29/80	9	51	0.012	0.0010	0.057	15.77	69.84
2	5/29/80	9	53	0.006	0.0005	0.028	15.77	69.84
2	5/29/80	9	59	0.0	0.0	0.0	15.77	69.84
2	5/30/80	1	28	0.0	0.0	0.0	0.0	69.84
2	5/30/80	1	29	0.009	0.0008	0.043	0.00	69.84
2	5/30/80	1	30	0.027	0.0023	0.128	0.00	69.84
2	5/30/80	1	31	0.043	0.0047	0.263	0.01	69.84
2	5/30/80	1	32	0.049	0.0057	0.324	0.01	69.85
2	5/30/80	1	33	0.067	0.0095	0.537	0.02	69.86
2	5/30/80	1	34	0.094	0.0171	0.964	0.03	69.87
2	5/30/80	1	35	0.125	0.0280	1.581	0.05	69.89
2	5/30/80	1	36	0.140	0.0348	1.965	0.08	69.92
2	5/30/80	1	38	0.146	0.0375	2.119	0.15	69.99
2	5/30/80	1	40	0.155	0.0419	2.367	0.22	70.06
2	5/30/80	1	41	0.171	0.0502	2.839	0.27	70.11
2	5/30/80	1	44	0.162	0.0452	2.556	0.40	70.24
2	5/30/80	1	46	0.149	0.0389	2.196	0.48	70.32
2	5/30/80	1	48	0.134	0.0321	1.812	0.55	70.39
2	5/30/80	1	50	0.119	0.0256	1.444	0.60	70.44
2	5/30/80	1	52	0.104	0.0202	1.144	0.64	70.48
2	5/30/80	1	54	0.091	0.0160	0.904	0.68	70.52
2	5/30/80	1	56	0.082	0.0136	0.766	0.71	70.55
2	5/30/80	1	59	0.070	0.0103	0.583	0.74	70.58
2	5/30/80	2	1	0.061	0.0079	0.445	0.76	70.60
2	5/30/80	2	6	0.049	0.0057	0.324	0.79	70.63
2	5/30/80	2	10	0.037	0.0036	0.203	0.81	70.65
2	5/30/80	2	14	0.027	0.0023	0.128	0.82	70.66
2	5/30/80	2	17	0.018	0.0015	0.085	0.82	70.66
2	5/30/80	2	20	0.012	0.0010	0.057	0.83	70.67
2	5/30/80	2	28	0.006	0.0005	0.028	0.83	70.67
2	5/30/80	2	37	0.0	0.0	0.0	0.84	70.67
2	6/ 2/80	16	54	0.0	0.0	0.0	0.0	70.67
2	6/ 2/80	16	55	0.006	0.0005	0.028	0.00	70.67
2	6/ 2/80	16	56	0.024	0.0020	0.114	0.00	70.68
2	6/ 2/80	16	57	0.055	0.0068	0.384	0.01	70.68
2	6/ 2/80	16	58	0.098	0.0181	1.024	0.02	70.69
2	6/ 2/80	16	59	0.274	0.1269	7.169	0.09	70.76
2	6/ 2/80	17	0	0.451	0.3579	20.228	0.31	70.99
2	6/ 2/80	17	1	0.591	0.6439	36.391	0.79	71.46
2	6/ 2/80	17	2	0.661	0.8240	46.569	1.48	72.15
2	6/ 2/80	17	3	0.698	0.9285	52.475	2.30	72.98
2	6/ 2/80	17	4	0.719	0.9951	56.235	3.21	73.88
2	6/ 2/80	17	5	0.725	1.0143	57.323	4.15	74.83
2	6/ 2/80	17	6	0.713	0.9758	55.147	5.09	75.77
2	6/ 2/80	17	7	0.692	0.9110	51.482	5.93	76.65
2	6/ 2/80	17	8	0.655	0.8070	45.609	6.79	77.46
2	6/ 2/80	17	9	0.610	0.6881	38.888	7.49	78.17
2	6/ 2/80	17	10	0.573	0.6003	33.927	9.10	78.77
2	6/ 2/80	17	11	0.527	0.5001	28.262	8.62	79.29
2	6/ 2/80	17	12	0.491	0.4279	24.181	9.06	79.73
2	6/ 2/80	17	13	0.457	0.3681	20.804	9.43	80.10
2	6/ 2/80	17	14	0.442	0.3426	19.364	9.77	80.44
2	6/ 2/80	17	15	0.439	0.3375	19.076	10.09	80.76
2	6/ 2/80	17	17	0.446	0.3528	19.940	10.74	81.41
2	6/ 2/80	17	18	0.457	0.3681	20.804	11.08	81.75
2	6/ 2/80	17	19	0.466	0.3843	21.716	11.43	82.10
2	6/ 2/80	17	20	0.479	0.4058	22.933	11.80	82.48
2	6/ 2/80	17	21	0.482	0.4112	23.237	12.19	82.86
2	6/ 2/80	17	23	0.485	0.4165	23.541	12.97	83.64
2	6/ 2/80	17	24	0.482	0.4112	23.237	13.36	84.03
2	6/ 2/80	17	25	0.475	0.4004	22.629	13.74	84.41
2	6/ 2/80	17	26	0.485	0.4165	23.541	14.12	84.80
2	6/ 2/80	17	27	0.494	0.4338	24.517	14.52	85.20
2	6/ 2/80	17	28	0.509	0.4635	26.197	14.95	85.62
2	6/ 2/80	17	29	0.515	0.4754	26.869	15.39	86.06
2	6/ 2/80	17	30	0.512	0.4695	26.533	15.83	86.51
2	6/ 2/80	17	31	0.503	0.4517	25.525	16.27	86.94
2	6/ 2/80	17	32	0.485	0.4165	23.541	16.68	87.35
2	6/ 2/80	17	33	0.460	0.3735	21.108	17.05	87.72
2	6/ 2/80	17	34	0.442	0.3426	19.364	17.39	88.06
2	6/ 2/80	17	35	0.421	0.3078	17.395	17.69	88.37
2	6/ 2/80	17	36	0.390	0.2620	14.806	17.96	88.63
2	6/ 2/80	17	37	0.363	0.2246	12.691	18.19	88.86
2	6/ 2/80	17	38	0.338	0.1951	11.026	18.39	89.06
2	6/ 2/80	17	39	0.314	0.1676	9.474	18.56	89.23
2	6/ 2/80	17	40	0.299	0.1513	8.552	18.71	89.38
2	6/ 2/80	17	41	0.277	0.1299	7.342	18.84	89.51

TABLE D1- 7. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	6/ 2/80	17	42	0.262	0.1161	5.361	18.96	89.63
2	6/ 2/80	17	43	0.250	0.1053	5.953	19.06	89.73
2	6/ 2/80	17	46	0.133	0.0569	3.217	19.29	89.96
2	6/ 2/80	17	47	0.174	0.0519	2.933	19.34	90.01
2	6/ 2/80	17	48	0.162	0.0452	2.556	19.39	90.06
2	6/ 2/80	17	49	0.152	0.0402	2.272	19.43	90.10
2	6/ 2/80	17	50	0.146	0.0375	2.119	19.46	90.14
2	6/ 2/80	17	51	0.134	0.0321	1.812	19.50	90.17
2	6/ 2/80	17	52	0.122	0.0266	1.504	19.52	90.20
2	6/ 2/80	17	53	0.119	0.0256	1.444	19.55	90.22
2	6/ 2/80	17	54	0.110	0.0224	1.264	19.57	90.24
2	6/ 2/80	17	55	0.101	0.0192	1.084	19.59	90.26
2	6/ 2/80	17	57	0.098	0.0152	0.858	19.62	90.30
2	6/ 2/80	17	58	0.082	0.0136	0.766	19.64	90.31
2	6/ 2/80	18	2	0.073	0.0111	0.629	19.68	90.36
2	6/ 2/80	18	5	0.079	0.0127	0.720	19.72	90.39
2	6/ 2/80	18	6	0.091	0.0160	0.904	19.73	90.40
2	6/ 2/80	18	7	0.104	0.0202	1.144	19.75	90.42
2	6/ 2/80	18	8	0.122	0.0266	1.504	19.77	90.44
2	6/ 2/80	18	9	0.137	0.0334	1.888	19.80	90.47
2	6/ 2/80	18	10	0.149	0.0389	2.196	19.83	90.51
2	6/ 2/80	18	11	0.165	0.0469	2.650	19.87	90.55
2	6/ 2/80	18	12	0.174	0.0519	2.933	19.92	90.59
2	6/ 2/80	18	13	0.177	0.0536	3.028	19.97	90.64
2	6/ 2/80	18	15	0.163	0.0486	2.745	20.06	90.74
2	6/ 2/80	18	16	0.158	0.0436	2.461	20.11	90.78
2	6/ 2/80	18	18	0.140	0.0348	1.965	20.18	90.86
2	6/ 2/80	18	20	0.137	0.0334	1.888	20.25	90.92
2	6/ 2/80	18	22	0.131	0.0307	1.735	20.31	90.98
2	6/ 2/80	18	24	0.119	0.0256	1.444	20.36	91.03
2	6/ 2/80	18	26	0.104	0.0202	1.144	20.40	91.08
2	6/ 2/80	18	29	0.085	0.0144	0.812	20.45	91.12
2	6/ 2/80	18	43	0.064	0.0087	0.491	20.49	91.17
2	6/ 2/80	18	33	0.046	0.0052	0.294	20.53	91.20
2	6/ 2/80	18	44	0.030	0.0025	0.142	20.55	91.22
2	6/ 2/80	18	46	0.024	0.0020	0.114	20.55	91.23
2	6/ 2/80	18	48	0.016	0.0015	0.085	20.56	91.23
2	6/ 2/80	18	53	0.012	0.0013	0.057	20.56	91.24
2	6/ 2/80	18	54	0.006	0.0005	0.028	20.56	91.24
2	6/ 2/80	18	59	0.0	0.0	0.0	20.56	91.24
2	6/ 6/80	18	47	0.0	0.0	0.0	0.0	91.24
2	6/ 6/80	18	48	0.018	0.0015	0.085	0.00	91.24
2	6/ 6/80	18	49	0.040	0.0041	0.233	0.00	91.24
2	6/ 6/80	18	50	0.067	0.0095	0.537	0.01	91.25
2	6/ 6/80	18	51	0.098	0.0181	1.024	0.02	91.26
2	6/ 6/80	18	52	0.143	0.0361	2.042	0.05	91.29
2	6/ 6/80	18	53	0.174	0.0519	2.933	0.09	91.33
2	6/ 6/80	18	54	0.198	0.0668	3.777	0.15	91.38
2	6/ 6/80	18	55	0.213	0.0748	4.225	0.21	91.45
2	6/ 6/80	18	56	0.207	0.0728	4.113	0.28	91.52
2	6/ 6/80	18	57	0.201	0.0688	3.889	0.35	91.59
2	6/ 6/80	18	58	0.189	0.0609	3.441	0.41	91.65
2	6/ 6/80	18	59	0.177	0.0536	3.028	0.46	91.70
2	6/ 6/80	19	0	0.165	0.0469	2.650	0.51	91.75
2	6/ 6/80	19	1	0.152	0.0402	2.272	0.55	91.79
2	6/ 6/80	19	2	0.137	0.0334	1.888	0.59	91.82
2	6/ 6/80	19	3	0.134	0.0321	1.812	0.62	91.86
2	6/ 6/80	19	4	0.149	0.0389	2.196	0.65	91.89
2	6/ 6/80	19	5	0.158	0.0436	2.461	0.69	91.93
2	6/ 6/80	19	7	0.152	0.0402	2.272	0.77	92.01
2	6/ 6/80	19	8	0.146	0.0375	2.119	0.81	92.04
2	6/ 6/80	19	9	0.134	0.0321	1.812	0.84	92.08
2	6/ 6/80	19	10	0.125	0.0280	1.581	0.87	92.10
2	6/ 6/80	19	11	0.113	0.0234	1.324	0.89	92.13
2	6/ 6/80	19	12	0.104	0.0202	1.144	0.91	92.15
2	6/ 6/80	19	13	0.091	0.0160	0.904	0.93	92.17
2	6/ 6/80	19	16	0.067	0.0095	0.537	0.96	92.20
2	6/ 6/80	19	17	0.058	0.0073	0.415	0.97	92.21
2	6/ 6/80	19	18	0.052	0.0063	0.354	0.98	92.22
2	6/ 6/80	19	20	0.043	0.0047	0.263	0.99	92.23
2	6/ 6/80	19	22	0.034	0.0031	0.173	1.00	92.23
2	6/ 6/80	19	23	0.027	0.0023	0.128	1.00	92.24
2	6/ 6/80	19	24	0.018	0.0015	0.085	1.00	92.24
2	6/ 6/80	19	25	0.012	0.0010	0.057	1.00	92.24
2	6/ 6/80	19	28	0.0	0.0	0.0	1.00	92.24
2	6/ 7/80	4	57	0.0	0.0	0.0	0.0	92.24
2	6/ 7/80	4	58	0.024	0.0020	0.114	0.00	92.24
2	6/ 7/80	4	59	0.061	0.0079	0.445	0.01	92.25
2	6/ 7/80	5	0	0.098	0.0181	1.024	0.02	92.26
2	6/ 7/80	5	1	0.143	0.0361	2.042	0.04	92.28
2	6/ 7/80	5	2	0.180	0.0552	3.122	0.09	92.33
2	6/ 7/80	5	3	0.219	0.0814	4.599	0.15	92.39
2	6/ 7/80	5	4	0.241	0.0976	5.518	0.24	92.48
2	6/ 7/80	5	5	0.250	0.1053	5.953	0.33	92.57
2	6/ 7/80	5	6	0.256	0.1107	6.257	0.43	92.67
2	6/ 7/80	5	7	0.250	0.1053	5.953	0.53	92.77
2	6/ 7/80	5	8	0.244	0.1000	5.649	0.63	92.87
2	6/ 7/80	5	9	0.235	0.0930	5.255	0.72	92.96
2	6/ 7/80	5	10	0.223	0.0837	4.731	0.80	93.05
2	6/ 7/80	5	11	0.210	0.0748	4.225	0.88	93.12
2	6/ 7/80	5	12	0.207	0.0728	4.113	0.95	93.19
2	6/ 7/80	5	14	0.216	0.0791	4.468	1.09	93.33
2	6/ 7/80	5	15	0.210	0.0748	4.225	1.16	93.41
2	6/ 7/80	5	16	0.201	0.0688	3.889	1.21	93.47
2	6/ 7/80	5	17	0.189	0.0609	3.441	1.29	93.53
2	6/ 7/80	5	18	0.174	0.0519	2.933	1.35	93.59
2	6/ 7/80	5	19	0.158	0.0436	2.461	1.39	93.63
2	6/ 7/80	5	20	0.149	0.0389	2.196	1.43	93.67
2	6/ 7/80	5	21	0.140	0.0348	1.965	1.46	93.71
2	6/ 7/80	5	22	0.128	0.0293	1.658	1.49	93.74

TABLE D1- 7. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	6/ 7/80	5	24	0.110	0.0220	1.264	1.54	93.78
2	6/ 7/80	5	26	0.091	0.0180	0.904	1.58	93.82
2	6/ 7/80	5	28	0.073	0.0111	0.629	1.61	93.85
2	6/ 7/80	5	29	0.067	0.0095	0.537	1.62	93.86
2	6/ 7/80	5	31	0.058	0.0073	0.415	1.63	93.87
2	6/ 7/80	5	33	0.049	0.0057	0.324	1.64	93.88
2	6/ 7/80	5	35	0.040	0.0041	0.233	1.65	93.89
2	6/ 7/80	5	38	0.030	0.0025	0.142	1.66	93.90
2	6/ 7/80	5	39	0.024	0.0020	0.114	1.66	93.90
2	6/ 7/80	5	41	0.021	0.0018	0.100	1.67	93.91
2	6/ 7/80	5	46	0.018	0.0015	0.085	1.68	93.92
2	6/ 7/80	5	51	0.015	0.0013	0.071	1.68	93.92
2	6/ 7/80	6	0	0.0	0.0	0.0	1.69	93.93
2	6/13/80	21	20	0.0	0.0	0.0	0.0	93.93
2	6/13/80	21	21	0.015	0.0013	0.071	0.00	93.93
2	6/13/80	21	28	0.018	0.0015	0.085	0.01	93.94
2	6/13/80	21	29	0.043	0.0047	0.263	0.01	93.94
2	6/13/80	21	30	0.076	0.0119	0.675	0.02	93.95
2	6/13/80	21	31	0.091	0.0180	0.904	0.03	93.96
2	6/13/80	21	32	0.119	0.0256	1.444	0.05	93.98
2	6/13/80	21	33	0.140	0.0348	1.965	0.08	94.01
2	6/13/80	21	34	0.152	0.0402	2.272	0.12	94.04
2	6/13/80	21	35	0.158	0.0435	2.461	0.16	94.08
2	6/13/80	21	36	0.168	0.0486	2.745	0.20	94.13
2	6/13/80	21	37	0.139	0.0369	3.441	0.25	94.18
2	6/13/80	21	38	0.213	0.0767	4.337	0.32	94.24
2	6/13/80	21	39	0.235	0.0930	5.255	0.40	94.32
2	6/13/80	21	40	0.253	0.1080	6.105	0.49	94.42
2	6/13/80	21	41	0.268	0.1215	6.865	0.60	94.53
2	6/13/80	21	42	0.274	0.1269	7.169	0.72	94.64
2	6/13/80	21	43	0.277	0.1293	7.342	0.84	94.76
2	6/13/80	21	45	0.274	0.1269	7.169	1.08	95.01
2	6/13/80	21	47	0.280	0.1330	7.515	1.32	95.25
2	6/13/80	21	48	0.287	0.1391	7.861	1.45	95.38
2	6/13/80	21	50	0.280	0.1330	7.515	1.71	95.64
2	6/13/80	21	51	0.274	0.1269	7.169	1.83	95.76
2	6/13/80	21	53	0.256	0.1107	6.257	2.05	95.98
2	6/13/80	21	54	0.241	0.0976	5.518	2.15	96.08
2	6/13/80	21	55	0.229	0.0863	4.993	2.24	96.17
2	6/13/80	21	56	0.213	0.0767	4.337	2.32	96.24
2	6/13/80	21	57	0.195	0.0668	3.777	2.38	96.31
2	6/13/80	21	59	0.174	0.0519	2.933	2.50	96.42
2	6/13/80	22	1	0.152	0.0402	2.272	2.58	96.51
2	6/13/80	22	2	0.143	0.0361	2.042	2.62	96.55
2	6/13/80	22	3	0.128	0.0293	1.658	2.65	96.58
2	6/13/80	22	5	0.110	0.0224	1.264	2.70	96.63
2	6/13/80	22	6	0.098	0.0181	1.024	2.72	96.65
2	6/13/80	22	8	0.082	0.0136	0.766	2.75	96.68
2	6/13/80	22	9	0.076	0.0119	0.675	2.76	96.69
2	6/13/80	22	10	0.067	0.0095	0.537	2.77	96.70
2	6/13/80	22	11	0.058	0.0073	0.415	2.78	96.71
2	6/13/80	22	13	0.049	0.0057	0.324	2.79	96.72
2	6/13/80	22	15	0.040	0.0041	0.233	2.80	96.73
2	6/13/80	22	16	0.037	0.0036	0.203	2.80	96.73
2	6/13/80	22	18	0.030	0.0025	0.142	2.81	96.74
2	6/13/80	22	21	0.030	0.0025	0.142	2.82	96.74
2	6/13/80	22	22	0.027	0.0023	0.128	2.82	96.75
2	6/13/80	22	26	0.024	0.0020	0.114	2.83	96.75
2	6/13/80	22	27	0.018	0.0015	0.085	2.83	96.76
2	6/13/80	22	31	0.015	0.0013	0.071	2.84	96.76
2	6/13/80	22	33	0.012	0.0010	0.057	2.84	96.76
2	6/13/80	22	35	0.009	0.0008	0.043	2.84	96.76
2	6/13/80	22	45	0.0	0.0	0.0	2.84	96.77
2	6/15/80	3	17	0.0	0.0	0.0	0.0	96.77
2	6/15/80	3	19	0.012	0.0010	0.057	0.00	96.77
2	6/15/80	3	20	0.030	0.0025	0.142	0.00	96.77
2	6/15/80	3	21	0.104	0.0202	1.144	0.01	96.78
2	6/15/80	3	22	0.213	0.0767	4.337	0.06	96.83
2	6/15/80	3	23	0.311	0.1642	9.282	0.17	96.94
2	6/15/80	3	24	0.354	0.2135	12.066	0.35	97.12
2	6/15/80	3	25	0.390	0.2620	14.806	0.57	97.34
2	6/15/80	3	26	0.418	0.3031	17.131	0.84	97.61
2	6/15/80	3	27	0.427	0.3171	17.924	1.13	97.90
2	6/15/80	3	28	0.436	0.3324	18.788	1.44	98.21
2	6/15/80	3	29	0.433	0.3273	18.500	1.75	98.52
2	6/15/80	3	30	0.424	0.3125	17.660	2.05	98.82
2	6/15/80	3	31	0.411	0.2938	16.603	2.34	99.10
2	6/15/80	3	32	0.402	0.2798	15.811	2.61	99.37
2	6/15/80	3	34	0.415	0.2985	16.867	3.15	99.92
2	6/15/80	3	35	0.405	0.2844	16.075	3.43	100.19
2	6/15/80	3	36	0.387	0.2578	14.568	3.68	100.45
2	6/15/80	3	37	0.360	0.2209	12.483	3.91	100.67
2	6/15/80	3	38	0.338	0.1951	11.026	4.10	100.87
2	6/15/80	3	39	0.320	0.1744	9.858	4.28	101.04
2	6/15/80	3	40	0.302	0.1544	8.725	4.44	101.20
2	6/15/80	3	41	0.277	0.1299	7.342	4.56	101.33
2	6/15/80	3	42	0.262	0.1161	6.561	4.68	101.45
2	6/15/80	3	43	0.244	0.1000	5.649	4.78	101.55
2	6/15/80	3	45	0.213	0.0767	4.337	4.95	101.72
2	6/15/80	3	47	0.189	0.0609	3.441	5.08	101.85
2	6/15/80	3	48	0.177	0.0536	3.028	5.13	101.90
2	6/15/80	3	49	0.165	0.0469	2.650	5.18	101.95
2	6/15/80	3	50	0.155	0.0413	2.367	5.22	101.99
2	6/15/80	3	52	0.143	0.0361	2.042	5.30	102.06
2	6/15/80	3	53	0.140	0.0348	1.965	5.33	102.10
2	6/15/80	3	55	0.125	0.0280	1.581	5.39	102.16
2	6/15/80	3	57	0.113	0.0234	1.324	5.44	102.20
2	6/15/80	3	59	0.094	0.0171	0.964	5.47	102.24
2	6/15/80	4	2	0.079	0.0127	0.720	5.52	102.28
2	6/15/80	4	3	0.070	0.0103	0.583	5.53	102.29

TABLE D1- 7. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	6/15/80	3	5	0.361	0.0079	0.445	5.54	102.31
2	6/15/80	3	6	0.055	0.0069	0.384	5.55	102.32
2	6/15/80	4	8	0.049	0.0057	0.324	5.56	102.33
2	6/15/80	4	11	0.043	0.0047	0.263	5.58	102.35
2	6/15/80	4	14	0.037	0.0036	0.203	5.59	102.36
2	6/15/80	4	17	0.030	0.0025	0.142	5.60	102.37
2	6/15/80	4	19	0.018	0.0015	0.085	5.60	102.37
2	6/15/80	4	24	0.012	0.0010	0.057	5.61	102.38
2	6/15/80	4	26	0.009	0.0008	0.043	5.61	102.38
2	6/15/80	4	30	0.006	0.0005	0.028	5.61	102.38
2	6/15/80	4	45	0.0	0.0	0.0	5.62	102.38
2	8/ 6/80	1	54	0.0	0.0	0.0	0.0	102.38
2	8/ 6/80	1	55	0.037	0.0036	0.203	0.00	102.38
2	8/ 6/80	1	57	0.061	0.0079	0.445	0.01	102.40
2	8/ 6/80	2	1	0.073	0.0111	0.629	0.05	102.43
2	8/ 6/80	2	3	0.085	0.0144	0.812	0.07	102.45
2	8/ 6/80	2	5	0.101	0.0192	1.084	0.10	102.49
2	8/ 6/80	2	7	0.110	0.0224	1.264	0.14	102.53
2	8/ 6/80	2	12	0.110	0.0224	1.264	0.25	102.63
2	8/ 6/80	2	15	0.116	0.0245	1.384	0.31	102.70
2	8/ 6/80	2	17	0.128	0.0293	1.658	0.37	102.75
2	8/ 6/80	2	19	0.146	0.0375	2.119	0.43	102.81
2	8/ 6/80	2	21	0.213	0.0767	4.337	0.54	102.92
2	8/ 6/80	2	25	0.561	0.3720	32.327	1.76	104.14
2	8/ 6/80	2	32	0.719	0.9551	56.235	6.92	109.31
2	8/ 6/80	2	37	0.643	0.5312	30.022	10.52	112.90
2	8/ 6/80	2	39	0.465	0.4165	23.541	11.41	113.79
2	8/ 6/80	2	41	0.427	0.3171	17.924	12.10	114.48
2	8/ 6/80	2	43	0.393	0.2662	15.045	12.65	115.03
2	8/ 6/80	2	45	0.357	0.2172	12.274	13.11	115.49
2	8/ 6/80	2	51	0.256	0.1107	6.257	14.03	116.42
2	8/ 6/80	2	53	0.219	0.0814	4.599	14.21	116.60
2	8/ 6/80	2	55	0.201	0.0688	3.889	14.36	116.74
2	8/ 6/80	2	57	0.180	0.0552	3.122	14.47	116.86
2	8/ 6/80	2	59	0.165	0.0469	2.650	14.57	116.95
2	8/ 6/80	3	1	0.149	0.0389	2.196	14.65	117.03
2	8/ 6/80	3	3	0.134	0.0321	1.812	14.72	117.10
2	8/ 6/80	3	5	0.116	0.0245	1.384	14.77	117.15
2	8/ 6/80	3	9	0.091	0.0160	0.904	14.85	117.23
2	8/ 6/80	3	13	0.070	0.0103	0.583	14.90	117.28
2	8/ 6/80	3	21	0.058	0.0073	0.415	14.96	117.34
2	8/ 6/80	3	43	0.034	0.0031	0.173	15.05	117.44
2	8/ 6/80	4	0	0.015	0.0013	0.071	15.10	117.48
2	8/ 6/80	4	20	0.0	0.0	0.0	15.11	117.49
2	8/11/80	4	27	0.0	0.0	0.0	0.0	117.49
2	8/11/80	4	28	0.024	0.0020	0.114	0.00	117.49
2	8/11/80	4	29	0.064	0.0087	0.491	0.01	117.50
2	8/11/80	4	30	0.094	0.0171	0.964	0.02	117.51
2	8/11/80	4	31	0.143	0.0361	2.042	0.04	117.53
2	8/11/80	4	32	0.165	0.0469	2.650	0.08	117.57
2	8/11/80	4	33	0.180	0.0552	3.122	0.13	117.62
2	8/11/80	4	34	0.192	0.0629	3.553	0.19	117.68
2	8/11/80	4	35	0.204	0.0708	4.001	0.25	117.74
2	8/11/80	4	36	0.216	0.0791	4.468	0.32	117.81
2	8/11/80	4	38	0.219	0.0814	4.599	0.47	117.96
2	8/11/80	4	40	0.216	0.0791	4.468	0.62	118.11
2	8/11/80	4	41	0.204	0.0708	4.001	0.69	118.18
2	8/11/80	4	42	0.183	0.0569	3.217	0.75	118.24
2	8/11/80	4	47	0.134	0.0321	1.812	0.96	118.45
2	8/11/80	4	48	0.125	0.0280	1.581	0.99	118.48
2	8/11/80	4	50	0.113	0.0234	1.324	1.04	118.53
2	8/11/80	4	52	0.125	0.0280	1.581	1.09	118.58
2	8/11/80	4	53	0.131	0.0307	1.735	1.11	118.60
2	8/11/80	4	55	0.143	0.0361	2.042	1.18	118.67
2	8/11/80	4	57	0.134	0.0321	1.812	1.24	118.73
2	8/11/80	4	59	0.119	0.0256	1.444	1.30	118.79
2	8/11/80	5	1	0.101	0.0192	1.084	1.34	118.83
2	8/11/80	5	3	0.082	0.0136	0.766	1.37	118.86
2	8/11/80	5	5	0.064	0.0087	0.491	1.39	118.88
2	8/11/80	5	8	0.052	0.0063	0.354	1.41	118.90
2	8/11/80	5	10	0.043	0.0047	0.263	1.42	118.91
2	8/11/80	5	12	0.034	0.0031	0.173	1.43	118.92
2	8/11/80	5	14	0.024	0.0020	0.114	1.43	118.92
2	8/11/80	5	16	0.018	0.0015	0.085	1.44	118.93
2	8/11/80	5	21	0.009	0.0008	0.043	1.44	118.93
2	8/11/80	5	25	0.003	0.0003	0.014	1.44	118.93
2	8/11/80	5	28	0.0	0.0	0.0	1.44	118.93
2	8/16/80	9	52	0.0	0.0	0.0	0.0	118.93
2	8/16/80	9	54	0.012	0.0010	0.057	0.00	118.94
2	8/16/80	9	56	0.018	0.0015	0.085	0.00	118.94
2	8/16/80	9	59	0.024	0.0020	0.114	0.01	118.94
2	8/16/80	10	2	0.024	0.0020	0.114	0.01	118.95
2	8/16/80	10	4	0.018	0.0015	0.085	0.02	118.95
2	8/16/80	10	9	0.006	0.0005	0.028	0.02	118.96
2	8/16/80	10	13	0.0	0.0	0.0	0.02	118.96
2	8/16/80	10	18	0.006	0.0005	0.028	0.02	118.96
2	8/16/80	10	20	0.018	0.0015	0.085	0.03	118.96
2	8/16/80	10	21	0.040	0.0041	0.233	0.03	118.96
2	8/16/80	10	22	0.055	0.0068	0.384	0.03	118.97
2	8/16/80	10	23	0.070	0.0103	0.583	0.04	118.98
2	8/16/80	10	24	0.085	0.0144	0.812	0.05	118.99
2	8/16/80	10	25	0.093	0.0181	1.024	0.07	119.00
2	8/16/80	10	27	0.104	0.0202	1.144	0.11	119.04
2	8/16/80	10	29	0.098	0.0181	1.024	0.14	119.08
2	8/16/80	10	31	0.079	0.0127	0.720	0.17	119.10
2	8/16/80	10	33	0.073	0.0111	0.629	0.19	119.13
2	8/16/80	10	36	0.076	0.0119	0.675	0.23	119.16
2	8/16/80	10	38	0.073	0.0111	0.629	0.25	119.18

TABLE D1- 7. CONCLUDED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
2	8/16/80	10	40	0.064	0.0027	0.491	0.27	119.20
2	8/16/80	10	43	0.058	0.0073	0.415	0.29	119.22
2	8/16/80	10	50	0.058	0.0073	0.415	0.34	119.27
2	8/16/80	10	53	0.055	0.0068	0.384	0.36	119.29
2	8/16/80	10	57	0.049	0.0057	0.324	0.38	119.31
2	8/16/80	11	3	0.037	0.0036	0.203	0.41	119.34
2	8/16/80	11	6	0.030	0.0025	0.142	0.42	119.35
2	8/16/80	11	8	0.024	0.0020	0.114	0.42	119.35
2	8/16/80	11	11	0.018	0.0015	0.085	0.42	119.36
2	8/16/80	11	21	0.018	0.0015	0.085	0.44	119.37
2	8/16/80	11	25	0.012	0.0010	0.057	0.44	119.38
2	8/16/80	11	30	0.0	0.0	0.0	0.45	119.38
2	8/16/80	12	46	0.0	0.0	0.0	0.45	119.38
2	8/16/80	12	47	0.015	0.0013	0.071	0.45	119.38
2	8/16/80	12	49	0.009	0.0008	0.043	0.45	119.38
2	8/16/80	12	52	0.003	0.0003	0.014	0.45	119.38
2	8/16/80	12	53	0.0	0.0	0.0	0.45	119.38
2	8/19/80	2	50	0.0	0.0	0.0	0.0	119.38
2	8/19/80	2	51	0.006	0.0005	0.028	0.00	119.38
2	8/19/80	2	52	0.015	0.0013	0.071	0.00	119.38
2	8/19/80	2	53	0.021	0.0018	0.100	0.00	119.39
2	8/19/80	2	54	0.027	0.0023	0.128	0.00	119.39
2	8/19/80	2	55	0.030	0.0025	0.142	0.01	119.39
2	8/19/80	2	56	0.027	0.0023	0.128	0.01	119.39
2	8/19/80	2	57	0.021	0.0018	0.100	0.01	119.39
2	8/19/80	2	59	0.009	0.0008	0.043	0.01	119.40
2	8/19/80	3	1	0.0	0.0	0.0	0.01	119.40
2	9/ 4/80	3	23	0.0	0.0	0.0	0.0	119.40
2	9/ 4/80	3	25	0.009	0.0008	0.043	0.00	119.40
2	9/ 4/80	3	27	0.021	0.0018	0.100	0.00	119.40
2	9/ 4/80	3	28	0.027	0.0023	0.128	0.00	119.40
2	9/ 4/80	3	29	0.037	0.0036	0.203	0.01	119.41
2	9/ 4/80	3	33	0.046	0.0052	0.294	0.01	119.41
2	9/ 4/80	3	32	0.055	0.0068	0.384	0.02	119.42
2	9/ 4/80	3	33	0.058	0.0073	0.415	0.03	119.43
2	9/ 4/80	3	34	0.061	0.0079	0.445	0.04	119.43
2	9/ 4/80	3	36	0.058	0.0073	0.415	0.05	119.45
2	9/ 4/80	3	37	0.052	0.0063	0.354	0.06	119.46
2	9/ 4/80	3	41	0.034	0.0031	0.173	0.08	119.47
2	9/ 4/80	3	43	0.021	0.0018	0.100	0.08	119.48
2	9/ 4/80	3	46	0.009	0.0008	0.043	0.08	119.48
2	9/ 4/80	3	49	0.0	0.0	0.0	0.08	119.48
2	9/ 9/80	1	6	0.0	0.0	0.0	0.0	119.48
2	9/ 9/80	1	9	0.009	0.0008	0.043	0.00	119.48
2	9/ 9/80	1	11	0.027	0.0023	0.128	0.00	119.49
2	9/ 9/80	1	12	0.034	0.0031	0.173	0.01	119.49
2	9/ 9/80	1	13	0.043	0.0047	0.263	0.01	119.49
2	9/ 9/80	1	14	0.046	0.0052	0.294	0.01	119.50
2	9/ 9/80	1	16	0.040	0.0041	0.233	0.02	119.51
2	9/ 9/80	1	18	0.027	0.0023	0.128	0.03	119.51
2	9/ 9/80	1	19	0.021	0.0018	0.100	0.03	119.51
2	9/ 9/80	1	23	0.009	0.0008	0.043	0.04	119.52
2	9/ 9/80	1	28	0.0	0.0	0.0	0.04	119.52
2	9/12/80	3	49	0.0	0.0	0.0	0.0	119.52
2	9/12/80	3	50	0.009	0.0008	0.043	0.00	119.52
2	9/12/80	3	51	0.018	0.0015	0.085	0.00	119.52
2	9/12/80	3	52	0.030	0.0025	0.142	0.00	119.52
2	9/12/80	3	53	0.040	0.0041	0.233	0.01	119.53
2	9/12/80	3	55	0.052	0.0063	0.354	0.02	119.54
2	9/12/80	3	57	0.058	0.0073	0.415	0.03	119.55
2	9/12/80	3	59	0.052	0.0063	0.354	0.04	119.56
2	9/12/80	4	5	0.034	0.0031	0.173	0.07	119.59
2	9/12/80	4	7	0.021	0.0018	0.100	0.07	119.59
2	9/12/80	4	10	0.015	0.0013	0.071	0.08	119.60
2	9/12/80	4	12	0.009	0.0008	0.043	0.08	119.60
2	9/12/80	4	17	0.0	0.0	0.0	0.08	119.60

TABLE D1- 8. FOUR MILE CREEK WATERSHED RUNOFF DATA FOR 1980 SITE 3

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	2/21/80	9	5	0.0	0.0	0.0	0.0	0.0
3	2/21/80	9	12	0.003	0.0003	0.015	0.00	0.00
3	2/21/80	9	14	0.009	0.0008	0.046	0.00	0.00
3	2/21/80	9	18	0.015	0.0013	0.076	0.01	0.01
3	2/21/80	9	23	0.021	0.0018	0.107	0.01	0.01
3	2/21/80	9	27	0.024	0.0020	0.122	0.02	0.02
3	2/21/80	9	32	0.027	0.0023	0.138	0.03	0.03
3	2/21/80	9	36	0.030	0.0025	0.153	0.04	0.04
3	2/21/80	9	38	0.034	0.0031	0.185	0.05	0.05
3	2/21/80	9	42	0.037	0.0036	0.218	0.06	0.06
3	2/21/80	9	47	0.040	0.0041	0.250	0.08	0.08
3	2/21/80	10	0	0.046	0.0052	0.315	0.14	0.14
3	2/21/80	10	42	0.049	0.0057	0.348	0.37	0.37
3	2/21/80	10	47	0.052	0.0063	0.380	0.40	0.40
3	2/21/80	10	53	0.058	0.0073	0.445	0.45	0.45
3	2/21/80	11	1	0.064	0.0087	0.527	0.51	0.51
3	2/21/80	11	7	0.067	0.0095	0.577	0.57	0.57
3	2/21/80	11	14	0.070	0.0103	0.626	0.64	0.64
3	2/21/80	11	23	0.070	0.0103	0.626	0.73	0.73
3	2/21/80	11	27	0.067	0.0095	0.577	0.77	0.77
3	2/21/80	11	29	0.070	0.0103	0.626	0.79	0.79
3	2/21/80	11	33	0.076	0.0119	0.725	0.83	0.83
3	2/21/80	11	37	0.082	0.0136	0.823	0.89	0.89
3	2/21/80	11	41	0.088	0.0152	0.922	0.94	0.94
3	2/21/80	11	43	0.094	0.0171	1.036	0.98	0.98
3	2/21/80	11	45	0.101	0.0192	1.165	1.01	1.01
3	2/21/80	11	48	0.113	0.0234	1.423	1.08	1.08
3	2/21/80	11	50	0.125	0.0280	1.698	1.13	1.13
3	2/21/80	11	53	0.143	0.0361	2.194	1.23	1.23
3	2/21/80	11	54	0.149	0.0389	2.359	1.27	1.27
3	2/21/80	11	57	0.162	0.0452	2.745	1.39	1.39
3	2/21/80	12	0	0.171	0.0502	3.050	1.54	1.54
3	2/21/80	12	5	0.177	0.0536	3.252	1.80	1.80
3	2/21/80	12	12	0.178	0.0519	3.151	2.17	2.17
3	2/21/80	12	18	0.168	0.0486	2.948	2.48	2.48
3	2/21/80	12	23	0.162	0.0452	2.745	2.72	2.72
3	2/21/80	12	29	0.155	0.0419	2.542	2.98	2.98
3	2/21/80	12	33	0.149	0.0389	2.359	3.14	3.14
3	2/21/80	12	38	0.143	0.0361	2.194	3.33	3.33
3	2/21/80	12	43	0.137	0.0334	2.028	3.51	3.51
3	2/21/80	12	47	0.131	0.0307	1.863	3.64	3.64
3	2/21/80	12	53	0.125	0.0280	1.698	3.82	3.82
3	2/21/80	12	58	0.119	0.0256	1.551	3.95	3.95
3	2/21/80	13	4	0.113	0.0234	1.423	4.10	4.10
3	2/21/80	13	12	0.107	0.0213	1.294	4.28	4.28
3	2/21/80	13	20	0.101	0.0192	1.165	4.45	4.45
3	2/21/80	13	29	0.094	0.0171	1.036	4.61	4.61
3	2/21/80	13	39	0.088	0.0152	0.922	4.77	4.77
3	2/21/80	13	51	0.082	0.0136	0.823	4.95	4.95
3	2/21/80	14	4	0.076	0.0119	0.725	5.12	5.12
3	2/21/80	14	15	0.070	0.0103	0.626	5.24	5.24
3	2/21/80	14	30	0.064	0.0087	0.527	5.39	5.39
3	2/21/80	14	53	0.058	0.0073	0.445	5.57	5.57
3	2/21/80	15	21	0.052	0.0063	0.380	5.76	5.76
3	2/21/80	15	49	0.049	0.0057	0.348	5.93	5.93
3	2/21/80	16	5	0.046	0.0052	0.315	6.02	6.02
3	2/21/80	16	40	0.040	0.0041	0.250	6.19	6.19
3	2/21/80	16	56	0.037	0.0036	0.218	6.25	6.25
3	2/21/80	18	20	0.034	0.0031	0.185	6.53	6.53
3	2/22/80	15	20	0.034	0.0031	0.185	10.43	10.43
3	2/22/80	16	36	0.030	0.0025	0.153	10.64	10.64
3	2/22/80	17	23	0.027	0.0023	0.138	10.76	10.76
3	2/22/80	17	48	0.024	0.0020	0.122	10.81	10.81
3	2/22/80	18	12	0.021	0.0018	0.107	10.86	10.86
3	2/22/80	18	56	0.018	0.0015	0.092	10.93	10.93
3	2/22/80	19	46	0.015	0.0013	0.076	11.00	11.00
3	2/22/80	20	32	0.012	0.0010	0.061	11.05	11.05
3	2/22/80	21	36	0.009	0.0008	0.046	11.11	11.11
3	2/22/80	22	44	0.006	0.0005	0.031	11.15	11.15
3	2/22/80	23	58	0.003	0.0003	0.015	11.18	11.18
3	2/23/80	0	52	0.003	0.0003	0.015	11.19	11.19
3	2/23/80	1	4	0.006	0.0005	0.031	11.20	11.20
3	2/23/80	1	19	0.012	0.0010	0.061	11.21	11.21
3	2/23/80	1	31	0.018	0.0015	0.092	11.23	11.23
3	2/23/80	1	48	0.024	0.0020	0.122	11.26	11.26
3	2/23/80	2	26	0.030	0.0025	0.153	11.34	11.34
3	2/23/80	3	8	0.034	0.0031	0.185	11.46	11.46
3	2/23/80	11	0	0.030	0.0025	0.153	12.79	12.79
3	2/23/80	11	25	0.027	0.0023	0.138	12.85	12.85
3	2/23/80	11	36	0.021	0.0018	0.107	12.88	12.88
3	2/23/80	11	45	0.015	0.0013	0.076	12.89	12.89
3	2/23/80	11	53	0.006	0.0005	0.031	12.90	12.90
3	2/23/80	12	0	0.0	0.0	0.0	12.90	12.90
3	3/ 9/80	15	0	0.0	0.0	0.0	0.0	12.90
3	3/ 9/80	17	0	0.030	0.0025	0.153	0.15	13.05
3	3/ 9/80	17	5	0.024	0.0020	0.122	0.16	13.06
3	3/ 9/80	17	24	0.024	0.0020	0.122	0.20	13.10
3	3/ 9/80	17	28	0.027	0.0023	0.138	0.21	13.11
3	3/ 9/80	17	36	0.030	0.0025	0.153	0.23	13.13
3	3/ 9/80	18	0	0.037	0.0036	0.218	0.31	13.20
3	3/ 9/80	18	48	0.040	0.0041	0.250	0.49	13.39
3	3/ 9/80	19	46	0.037	0.0036	0.218	0.72	13.62
3	3/ 9/80	20	40	0.034	0.0031	0.185	0.90	13.80
3	3/ 9/80	22	24	0.034	0.0031	0.185	1.22	14.12
3	3/ 9/80	22	40	0.037	0.0036	0.218	1.28	14.18
3	3/ 9/80	22	54	0.043	0.0047	0.283	1.33	14.23
3	3/ 9/80	23	10	0.049	0.0057	0.348	1.42	14.32
3	3/ 9/80	23	20	0.055	0.0068	0.413	1.48	14.38
3	3/ 9/80	23	29	0.061	0.0079	0.478	1.55	14.45
3	3/ 9/80	23	39	0.067	0.0095	0.577	1.64	14.54
3	3/ 9/80	23	48	0.073	0.0111	0.675	1.73	14.63
3	3/10/80	0	1	0.079	0.0127	0.774	1.89	14.79

TABLE D1- 8. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	3/10/80	0	9	0.085	0.0144	0.873	2.00	14.90
3	3/10/80	0	22	0.091	0.0160	0.971	2.20	15.10
3	3/10/80	0	37	0.098	0.0181	1.100	2.46	15.36
3	3/10/80	0	55	0.104	0.0202	1.229	2.81	15.70
3	3/10/80	1	17	0.110	0.0224	1.358	3.28	16.18
3	3/10/80	1	31	0.113	0.0234	1.423	3.60	16.50
3	3/10/80	1	59	0.116	0.0245	1.487	4.28	17.18
3	3/10/80	2	13	0.119	0.0256	1.551	4.64	17.54
3	3/10/80	2	28	0.122	0.0266	1.616	5.03	17.93
3	3/10/80	2	41	0.125	0.0280	1.698	5.39	18.29
3	3/10/80	4	4	0.125	0.0280	1.698	7.74	20.64
3	3/10/80	4	18	0.122	0.0266	1.616	8.13	21.03
3	3/10/80	4	32	0.116	0.0245	1.487	8.49	21.39
3	3/10/80	4	41	0.113	0.0234	1.423	8.71	21.61
3	3/10/80	4	52	0.110	0.0224	1.358	8.96	21.86
3	3/10/80	5	7	0.107	0.0213	1.294	9.30	22.19
3	3/10/80	5	32	0.104	0.0202	1.229	9.82	22.72
3	3/10/80	5	55	0.101	0.0192	1.165	10.28	23.18
3	3/10/80	6	10	0.098	0.0181	1.100	10.56	23.46
3	3/10/80	6	49	0.094	0.0171	1.036	11.26	24.16
3	3/10/80	6	57	0.091	0.0160	0.971	11.39	24.29
3	3/10/80	7	4	0.085	0.0144	0.873	11.50	24.40
3	3/10/80	7	8	0.079	0.0127	0.774	11.55	24.45
3	3/10/80	7	34	0.052	0.0063	0.380	11.80	24.70
3	3/10/80	7	56	0.030	0.0025	0.153	11.90	24.80
3	3/10/80	8	12	0.024	0.0020	0.122	11.94	24.84
3	3/10/80	8	35	0.018	0.0015	0.092	11.98	24.88
3	3/10/80	9	3	0.015	0.0013	0.076	12.02	24.92
3	3/10/80	9	36	0.012	0.0010	0.061	12.06	24.95
3	3/10/80	10	40	0.0	0.0	0.0	12.09	24.99
3	3/14/80	14	36	0.0	0.0	0.0	0.0	24.99
3	3/14/80	14	45	0.006	0.0005	0.031	0.00	24.99
3	3/14/80	14	51	0.012	0.0010	0.061	0.01	24.99
3	3/14/80	14	56	0.027	0.0023	0.138	0.02	25.00
3	3/14/80	14	58	0.043	0.0047	0.283	0.02	25.01
3	3/14/80	15	2	0.055	0.0068	0.413	0.05	25.03
3	3/14/80	15	4	0.061	0.0079	0.478	0.06	25.05
3	3/14/80	15	6	0.067	0.0095	0.577	0.08	25.07
3	3/14/80	15	10	0.073	0.0111	0.675	0.12	25.11
3	3/14/80	15	14	0.085	0.0144	0.873	0.17	25.16
3	3/14/80	15	18	0.091	0.0160	0.971	0.23	25.22
3	3/14/80	15	37	0.091	0.0160	0.971	0.54	25.53
3	3/14/80	15	40	0.088	0.0152	0.922	0.59	25.57
3	3/14/80	15	46	0.085	0.0144	0.873	0.68	25.66
3	3/14/80	15	58	0.082	0.0136	0.823	0.85	25.83
3	3/14/80	16	16	0.079	0.0127	0.774	1.09	26.07
3	3/14/80	16	40	0.055	0.0068	0.413	1.32	26.31
3	3/14/80	16	56	0.052	0.0063	0.380	1.43	26.42
3	3/14/80	17	18	0.049	0.0057	0.348	1.56	26.55
3	3/14/80	17	43	0.046	0.0052	0.315	1.70	26.69
3	3/14/80	17	52	0.043	0.0047	0.283	1.75	26.73
3	3/14/80	18	3	0.040	0.0041	0.250	1.80	26.78
3	3/14/80	18	20	0.037	0.0036	0.218	1.86	26.85
3	3/14/80	18	59	0.034	0.0031	0.185	1.99	26.98
3	3/14/80	21	26	0.030	0.0025	0.153	2.41	27.39
3	3/14/80	22	20	0.027	0.0023	0.138	2.54	27.53
3	3/14/80	23	32	0.030	0.0025	0.153	2.71	27.70
3	3/14/80	23	34	0.040	0.0041	0.250	2.72	27.71
3	3/14/80	23	54	0.043	0.0047	0.283	2.81	27.80
3	3/15/80	0	52	0.046	0.0052	0.315	3.10	28.08
3	3/15/80	8	19	0.046	0.0052	0.315	5.45	30.43
3	3/15/80	8	25	0.043	0.0047	0.283	5.48	30.46
3	3/15/80	8	35	0.037	0.0036	0.218	5.52	30.51
3	3/15/80	8	41	0.030	0.0025	0.153	5.54	30.52
3	3/15/80	8	45	0.024	0.0020	0.122	5.55	30.53
3	3/15/80	8	48	0.018	0.0015	0.092	5.55	30.54
3	3/15/80	8	50	0.012	0.0010	0.061	5.55	30.54
3	3/15/80	8	53	0.009	0.0008	0.046	5.56	30.54
3	3/15/80	9	16	0.006	0.0005	0.031	5.57	30.56
3	3/15/80	10	20	0.006	0.0005	0.031	5.60	30.59
3	3/15/80	10	50	0.009	0.0008	0.046	5.62	30.61
3	3/15/80	11	0	0.012	0.0010	0.061	5.63	30.62
3	3/15/80	11	16	0.018	0.0015	0.092	5.65	30.64
3	3/15/80	11	26	0.024	0.0020	0.122	5.67	30.66
3	3/15/80	11	28	0.030	0.0025	0.153	5.68	30.66
3	3/15/80	11	30	0.040	0.0041	0.250	5.68	30.67
3	3/15/80	11	32	0.049	0.0057	0.348	5.69	30.68
3	3/15/80	11	35	0.055	0.0068	0.413	5.71	30.70
3	3/15/80	11	41	0.061	0.0079	0.478	5.76	30.74
3	3/15/80	11	47	0.067	0.0095	0.577	5.81	30.80
3	3/15/80	11	54	0.070	0.0103	0.626	5.88	30.87
3	3/15/80	12	10	0.073	0.0111	0.675	6.05	31.04
3	3/15/80	12	24	0.079	0.0127	0.774	6.22	31.21
3	3/15/80	13	6	0.092	0.0136	0.823	6.78	31.77
3	3/15/80	13	20	0.079	0.0127	0.774	6.97	31.95
3	3/15/80	14	0	0.076	0.0119	0.725	7.47	32.45
3	3/15/80	15	8	0.076	0.0119	0.725	8.29	33.27
3	3/15/80	16	26	0.073	0.0111	0.675	9.20	34.18
3	3/15/80	17	59	0.070	0.0103	0.626	10.21	35.19
3	3/15/80	18	0	0.046	0.0052	0.315	10.21	35.20
3	3/15/80	18	16	0.043	0.0047	0.283	10.29	35.28
3	3/15/80	18	32	0.040	0.0041	0.250	10.36	35.35
3	3/15/80	19	0	0.037	0.0036	0.218	10.47	35.46
3	3/15/80	19	52	0.034	0.0031	0.185	10.65	35.64
3	3/15/80	22	12	0.030	0.0025	0.153	11.04	36.03
3	3/15/80	23	36	0.024	0.0020	0.122	11.24	36.22
3	3/15/80	23	38	0.021	0.0018	0.107	11.24	36.23
3	3/15/80	23	56	0.018	0.0015	0.092	11.27	36.26
3	3/16/80	1	25	0.015	0.0013	0.076	11.39	36.38
3	3/16/80	3	29	0.012	0.0010	0.061	11.54	36.52
3	3/16/80	6	20	0.009	0.0008	0.046	11.69	36.68
3	3/16/80	9	17	0.009	0.0008	0.046	11.82	36.81

TABLE D1- 8. CONCLUDED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
3	3/16/80	10	18	0.012	0.0010	0.061	11.88	36.87
3	3/16/80	10	35	0.015	0.0013	0.076	11.90	36.89
3	3/16/80	11	35	0.018	0.0015	0.092	11.98	36.97
3	3/16/80	12	40	0.021	0.0018	0.107	12.09	37.08
3	3/16/80	13	52	0.018	0.0015	0.092	12.21	37.20
3	3/16/80	15	25	0.015	0.0013	0.076	12.34	37.33
3	3/16/80	16	24	0.012	0.0010	0.061	12.41	37.39
3	3/16/80	17	0	0.009	0.0008	0.046	12.44	37.43
3	3/16/80	18	40	0.006	0.0005	0.031	12.50	37.49
3	3/16/80	19	40	0.009	0.0008	0.046	12.54	37.53
3	3/16/80	19	57	0.012	0.0010	0.061	12.56	37.54
3	3/16/80	20	14	0.015	0.0013	0.076	12.58	37.56
3	3/16/80	20	22	0.018	0.0015	0.092	12.59	37.57
3	3/16/80	20	28	0.024	0.0020	0.122	12.60	37.59
3	3/16/80	20	37	0.030	0.0025	0.153	12.62	37.61
3	3/16/80	20	48	0.037	0.0036	0.218	12.65	37.64
3	3/16/80	21	0	0.043	0.0047	0.283	12.70	37.69
3	3/16/80	21	15	0.049	0.0057	0.348	12.78	37.77
3	3/16/80	21	22	0.052	0.0063	0.380	12.82	37.81
3	3/16/80	21	34	0.055	0.0068	0.413	12.90	37.89
3	3/16/80	21	44	0.058	0.0073	0.445	12.98	37.96
3	3/16/80	22	20	0.061	0.0079	0.478	13.25	38.24
3	3/17/80	3	20	0.034	0.0031	0.185	14.91	39.90
3	3/17/80	7	50	0.015	0.0013	0.076	15.50	40.49
3	3/17/80	12	50	0.0	0.0	0.0	15.69	40.68
3	8/ 6/80	1	54	0.0	0.0	0.0	0.0	40.68
3	8/ 6/80	1	55	0.043	0.0047	0.283	0.00	40.68
3	8/ 6/80	1	56	0.073	0.0111	0.675	0.01	40.69
3	8/ 6/80	1	57	0.116	0.0245	1.487	0.03	40.71
3	8/ 6/80	1	58	0.168	0.0486	2.948	0.07	40.74
3	8/ 6/80	1	59	0.219	0.0814	4.941	0.13	40.81
3	8/ 6/80	2	0	0.253	0.1080	6.558	0.23	40.91
3	8/ 6/80	2	1	0.271	0.1242	7.538	0.34	41.02
3	8/ 6/80	2	2	0.280	0.1330	8.073	0.47	41.15
3	8/ 6/80	2	3	0.296	0.1483	9.001	0.62	41.30
3	8/ 6/80	2	4	0.299	0.1513	9.187	0.77	41.45
3	8/ 6/80	2	5	0.293	0.1452	8.815	0.92	41.60
3	8/ 6/80	2	6	0.283	0.1360	8.258	1.06	41.74
3	8/ 6/80	2	9	0.256	0.1107	6.722	1.44	42.11
3	8/ 6/80	2	10	0.244	0.1000	6.068	1.54	42.22
3	8/ 6/80	2	11	0.235	0.0930	5.645	1.64	42.32
3	8/ 6/80	2	13	0.226	0.0860	5.223	1.82	42.50
3	8/ 6/80	2	14	0.232	0.0907	5.504	1.91	42.59
3	8/ 6/80	2	15	0.238	0.0953	5.786	2.00	42.68
3	8/ 6/80	2	16	0.253	0.1080	6.558	2.11	42.79
3	8/ 6/80	2	17	0.268	0.1215	7.375	2.22	42.90
3	8/ 6/80	2	18	0.277	0.1299	7.887	2.35	43.03
3	8/ 6/80	2	19	0.280	0.1330	8.073	2.48	43.16
3	8/ 6/80	2	20	0.283	0.1360	8.258	2.62	43.30
3	8/ 6/80	2	21	0.280	0.1330	8.073	2.76	43.43
3	8/ 6/80	2	23	0.274	0.1269	7.701	3.02	43.70
3	8/ 6/80	2	24	0.271	0.1242	7.538	3.15	43.82
3	8/ 6/80	2	25	0.265	0.1188	7.211	3.27	43.95
3	8/ 6/80	2	26	0.256	0.1107	6.722	3.38	44.06
3	8/ 6/80	2	27	0.241	0.0976	5.927	3.49	44.17
3	8/ 6/80	2	28	0.232	0.0907	5.504	3.58	44.26
3	8/ 6/80	2	29	0.226	0.0860	5.223	3.67	44.35
3	8/ 6/80	2	30	0.210	0.0748	4.538	3.76	44.43
3	8/ 6/80	2	31	0.201	0.0688	4.177	3.83	44.51
3	8/ 6/80	2	32	0.189	0.0609	3.696	3.89	44.57
3	8/ 6/80	2	33	0.177	0.0536	3.252	3.95	44.63
3	8/ 6/80	2	35	0.152	0.0402	2.441	4.05	44.73
3	8/ 6/80	2	37	0.137	0.0334	2.028	4.12	44.80
3	8/ 6/80	2	38	0.128	0.0293	1.781	4.15	44.83
3	8/ 6/80	2	39	0.116	0.0245	1.487	4.18	44.86
3	8/ 6/80	2	40	0.107	0.0213	1.294	4.20	44.88
3	8/ 6/80	2	41	0.101	0.0192	1.165	4.22	44.90
3	8/ 6/80	2	42	0.094	0.0171	1.036	4.24	44.92
3	8/ 6/80	2	47	0.091	0.0160	0.971	4.33	45.00
3	8/ 6/80	2	50	0.085	0.0144	0.873	4.37	45.05
3	8/ 6/80	2	51	0.082	0.0136	0.823	4.39	45.06
3	8/ 6/80	2	55	0.058	0.0073	0.445	4.43	45.11
3	8/ 6/80	2	59	0.043	0.0047	0.283	4.45	45.13
3	8/ 6/80	3	0	0.037	0.0036	0.218	4.46	45.13
3	8/ 6/80	3	3	0.024	0.0020	0.122	4.47	45.14
3	8/ 6/80	3	4	0.018	0.0015	0.092	4.47	45.15
3	8/ 6/80	3	6	0.012	0.0010	0.061	4.47	45.15
3	8/ 6/80	3	8	0.006	0.0005	0.031	4.47	45.15
3	8/ 6/80	3	10	0.003	0.0003	0.015	4.47	45.15
3	8/ 6/80	3	13	0.0	0.0	0.0	4.47	45.15

TABLE D1- 9. FOUR MILE CREEK WATERSHED RUNOFF DATA FOR 1980 SITE 7

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	2/20/80	9	0	0.0	0.0	0.0	0.0	0.0
7	2/20/80	13	0	0.030	0.0142	0.018	0.04	0.04
7	2/20/80	13	28	0.037	0.0204	0.026	0.05	0.05
7	2/20/80	14	12	0.040	0.0235	0.030	0.07	0.07
7	2/20/80	15	34	0.043	0.0266	0.034	0.11	0.11
7	2/20/80	15	54	0.046	0.0297	0.038	0.12	0.12
7	2/20/80	16	1	0.052	0.0360	0.046	0.13	0.13
7	2/20/80	16	10	0.064	0.0490	0.062	0.13	0.13
7	2/20/80	16	16	0.070	0.0564	0.071	0.14	0.14
7	2/20/80	16	20	0.076	0.0637	0.081	0.15	0.15
7	2/20/80	16	26	0.082	0.0711	0.090	0.16	0.16
7	2/20/80	16	35	0.088	0.0784	0.099	0.17	0.17
7	2/20/80	16	48	0.094	0.0864	0.109	0.19	0.19
7	2/20/80	17	3	0.098	0.0906	0.115	0.22	0.22
7	2/20/80	17	29	0.101	0.0949	0.120	0.27	0.27
7	2/20/80	17	40	0.104	0.0991	0.126	0.29	0.29
7	2/20/80	17	46	0.107	0.1034	0.131	0.31	0.31
7	2/20/80	17	56	0.113	0.1119	0.142	0.33	0.33
7	2/20/80	18	6	0.119	0.1203	0.153	0.35	0.35
7	2/20/80	18	12	0.122	0.1246	0.158	0.37	0.37
7	2/20/80	18	19	0.125	0.1300	0.165	0.39	0.39
7	2/20/80	18	34	0.128	0.1354	0.172	0.43	0.43
7	2/20/80	19	20	0.131	0.1407	0.178	0.56	0.56
7	2/20/80	20	14	0.128	0.1354	0.172	0.72	0.72
7	2/20/80	20	50	0.125	0.1300	0.165	0.82	0.82
7	2/20/80	21	18	0.122	0.1246	0.158	0.90	0.90
7	2/20/80	21	50	0.119	0.1203	0.153	0.98	0.98
7	2/20/80	22	22	0.116	0.1161	0.147	1.06	1.06
7	2/20/80	23	29	0.116	0.1161	0.147	1.22	1.22
7	2/21/80	0	19	0.119	0.1203	0.153	1.35	1.35
7	2/21/80	3	17	0.122	0.1246	0.158	1.81	1.81
7	2/21/80	4	0	0.125	0.1300	0.165	1.93	1.93
7	2/21/80	4	42	0.128	0.1354	0.172	2.04	2.04
7	2/21/80	6	29	0.131	0.1407	0.178	2.36	2.36
7	2/21/80	6	45	0.134	0.1461	0.185	2.40	2.40
7	2/21/80	7	20	0.137	0.1515	0.192	2.51	2.51
7	2/21/80	7	44	0.140	0.1569	0.199	2.59	2.59
7	2/21/80	7	48	0.143	0.1623	0.206	2.61	2.61
7	2/21/80	7	52	0.149	0.1730	0.219	2.62	2.62
7	2/21/80	7	58	0.162	0.1971	0.250	2.64	2.64
7	2/21/80	8	4	0.168	0.2095	0.266	2.67	2.67
7	2/21/80	8	13	0.174	0.2220	0.281	2.71	2.71
7	2/21/80	8	20	0.180	0.2345	0.297	2.74	2.74
7	2/21/80	8	30	0.186	0.2475	0.314	2.79	2.79
7	2/21/80	8	40	0.189	0.2543	0.322	2.85	2.85
7	2/21/80	9	3	0.192	0.2611	0.331	2.97	2.97
7	2/21/80	9	28	0.195	0.2679	0.340	3.11	3.11
7	2/21/80	9	41	0.198	0.2747	0.348	3.19	3.19
7	2/21/80	9	52	0.198	0.2747	0.348	3.25	3.25
7	2/21/80	10	17	0.204	0.2883	0.365	3.40	3.40
7	2/21/80	10	41	0.207	0.2951	0.374	3.55	3.55
7	2/21/80	11	1	0.210	0.3019	0.383	3.67	3.67
7	2/21/80	11	22	0.216	0.3160	0.401	3.81	3.81
7	2/21/80	11	33	0.229	0.3465	0.438	3.89	3.89
7	2/21/80	11	47	0.235	0.3602	0.457	3.99	3.99
7	2/21/80	12	3	0.247	0.3602	0.495	4.12	4.12
7	2/21/80	12	17	0.259	0.4219	0.535	4.24	4.24
7	2/21/80	12	31	0.265	0.4378	0.555	4.37	4.37
7	2/21/80	12	46	0.277	0.4701	0.596	4.51	4.51
7	2/21/80	13	0	0.290	0.5040	0.639	4.65	4.65
7	2/21/80	13	20	0.317	0.6133	0.777	4.89	4.89
7	2/21/80	13	29	0.326	0.6635	0.841	5.01	5.01
7	2/21/80	13	46	0.351	0.7957	1.009	5.27	5.27
7	2/21/80	13	50	0.344	0.7629	0.967	5.34	5.34
7	2/21/80	13	59	0.357	0.8285	1.050	5.49	5.49
7	2/21/80	14	12	0.366	0.8778	1.113	5.73	5.73
7	2/21/80	14	30	0.372	0.9118	1.156	6.07	6.07
7	2/21/80	14	52	0.378	0.9458	1.199	6.50	6.50
7	2/21/80	15	16	0.387	0.9568	1.263	6.99	6.99
7	2/21/80	15	40	0.393	1.0307	1.307	7.50	7.50
7	2/21/80	16	24	0.381	0.9628	1.220	8.43	8.43
7	2/21/80	17	0	0.363	0.8614	1.092	9.12	9.12
7	2/21/80	17	26	0.347	0.7793	0.988	9.57	9.57
7	2/21/80	18	3	0.326	0.6635	0.841	10.14	10.14
7	2/21/80	18	58	0.302	0.5380	0.682	10.84	10.84
7	2/21/80	19	39	0.287	0.4955	0.628	11.28	11.28
7	2/21/80	20	19	0.271	0.4536	0.575	11.68	11.68
7	2/21/80	21	0	0.256	0.4140	0.525	12.06	12.06
7	2/21/80	22	14	0.229	0.3455	0.438	12.65	12.65
7	2/21/80	23	8	0.210	0.3019	0.383	13.02	13.02
7	2/21/80	23	59	0.195	0.2679	0.340	13.33	13.33
7	2/22/80	0	10	0.192	0.2611	0.331	13.39	13.39
7	2/22/80	1	8	0.180	0.2345	0.297	13.70	13.70
7	2/22/80	1	39	0.174	0.2220	0.281	13.85	13.85
7	2/22/80	2	20	0.168	0.2095	0.266	14.03	14.03
7	2/22/80	3	8	0.162	0.1971	0.250	14.24	14.24
7	2/22/80	3	37	0.155	0.1846	0.234	14.36	14.36
7	2/22/80	4	50	0.149	0.1730	0.219	14.63	14.63
7	2/22/80	5	34	0.143	0.1623	0.206	14.79	14.79
7	2/22/80	6	16	0.137	0.1515	0.192	14.93	14.93
7	2/22/80	7	3	0.131	0.1407	0.178	15.07	15.07
7	2/22/80	8	0	0.125	0.1300	0.165	15.23	15.23
7	2/22/80	8	56	0.122	0.1246	0.158	15.38	15.38
7	2/22/80	10	0	0.125	0.1300	0.165	15.56	15.56
7	2/22/80	10	32	0.131	0.1407	0.178	15.65	15.65
7	2/22/80	10	40	0.137	0.1515	0.192	15.67	15.67
7	2/22/80	10	58	0.143	0.1623	0.206	15.73	15.73
7	2/22/80	11	28	0.155	0.1846	0.234	15.84	15.84
7	2/22/80	11	51	0.168	0.2095	0.266	15.94	15.94
7	2/22/80	12	22	0.180	0.2345	0.297	16.08	16.08
7	2/22/80	12	52	0.192	0.2611	0.331	16.24	16.24
7	2/22/80	13	12	0.198	0.2747	0.348	16.35	16.35
7	2/22/80	13	28	0.201	0.2815	0.357	16.45	16.45
7	2/22/80	13	54	0.204	0.2883	0.365	16.60	16.60

TABLE D1- 9. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	2/22/80	14	25	0.210	0.3019	0.383	16.80	16.80
7	2/22/80	14	49	0.216	0.3150	0.401	16.95	16.95
7	2/22/80	15	30	0.223	0.3307	0.419	17.23	17.23
7	2/22/80	16	50	0.219	0.3234	0.410	17.79	17.79
7	2/22/80	17	18	0.213	0.3087	0.391	17.97	17.97
7	2/22/80	17	57	0.204	0.2883	0.365	18.22	18.22
7	2/22/80	19	11	0.186	0.2475	0.314	18.64	18.64
7	2/22/80	20	4	0.171	0.2158	0.274	18.90	18.90
7	2/22/80	20	58	0.155	0.1846	0.234	19.13	19.13
7	2/22/80	21	37	0.146	0.1676	0.212	19.27	19.27
7	2/22/80	22	27	0.134	0.1461	0.185	19.44	19.44
7	2/22/80	23	0	0.128	0.1354	0.172	19.54	19.54
7	2/22/80	23	20	0.125	0.1300	0.165	19.59	19.59
7	2/22/80	23	46	0.119	0.1203	0.153	19.66	19.66
7	2/23/80	0	9	0.113	0.1119	0.142	19.72	19.72
7	2/23/80	0	33	0.107	0.1034	0.131	19.77	19.77
7	2/23/80	1	12	0.101	0.0949	0.120	19.85	19.85
7	2/23/80	1	56	0.088	0.0784	0.099	19.93	19.93
7	2/23/80	2	32	0.076	0.0637	0.081	19.99	19.99
7	2/23/80	3	10	0.064	0.0490	0.062	20.03	20.03
7	2/23/80	3	27	0.058	0.0422	0.053	20.05	20.05
7	2/23/80	3	42	0.052	0.0360	0.046	20.06	20.06
7	2/23/80	3	56	0.049	0.0328	0.042	20.07	20.07
7	2/23/80	4	6	0.046	0.0297	0.038	20.08	20.08
7	2/23/80	4	15	0.043	0.0266	0.034	20.08	20.08
7	2/23/80	4	31	0.040	0.0235	0.030	20.09	20.09
7	2/23/80	5	28	0.040	0.0235	0.030	20.12	20.12
7	2/23/80	7	0	0.094	0.0864	0.109	20.23	20.23
7	2/23/80	7	18	0.107	0.1034	0.131	20.26	20.26
7	2/23/80	7	30	0.113	0.1119	0.142	20.29	20.29
7	2/23/80	7	39	0.116	0.1161	0.147	20.31	20.31
7	2/23/80	7	50	0.119	0.1203	0.153	20.34	20.34
7	2/23/80	8	0	0.122	0.1246	0.158	20.37	20.37
7	2/23/80	12	8	0.076	0.0637	0.081	20.86	20.86
7	2/23/80	16	0	0.040	0.0235	0.030	21.07	21.07
7	2/23/80	20	0	0.015	0.0071	0.009	21.15	21.15
7	2/23/80	23	59	0.0	0.0	0.0	21.17	21.17
7	3/ 9/80	15	0	0.0	0.0	0.0	0.0	21.17
7	3/ 9/80	17	40	0.137	0.1515	0.192	0.26	21.42
7	3/ 9/80	18	8	0.119	0.1203	0.153	0.34	21.50
7	3/ 9/80	18	20	0.101	0.0949	0.120	0.36	21.53
7	3/ 9/80	18	34	0.085	0.0748	0.095	0.39	21.56
7	3/ 9/80	18	44	0.076	0.0637	0.081	0.40	21.57
7	3/ 9/80	18	55	0.070	0.0564	0.071	0.42	21.59
7	3/ 9/80	19	14	0.064	0.0490	0.062	0.44	21.61
7	3/ 9/80	19	49	0.058	0.0422	0.053	0.47	21.64
7	3/ 9/80	20	25	0.052	0.0360	0.046	0.50	21.67
7	3/ 9/80	21	10	0.046	0.0297	0.038	0.53	21.70
7	3/ 9/80	22	2	0.040	0.0235	0.030	0.56	21.73
7	3/ 9/80	23	50	0.034	0.0173	0.022	0.61	21.78
7	3/10/80	1	50	0.030	0.0142	0.018	0.65	21.82
7	3/10/80	3	58	0.027	0.0127	0.016	0.69	21.85
7	3/10/80	4	58	0.024	0.0113	0.014	0.70	21.87
7	3/10/80	6	50	0.021	0.0099	0.013	0.73	21.89
7	3/10/80	12	0	0.0	0.0	0.0	0.76	21.93
7	3/14/80	15	0	0.0	0.0	0.0	0.0	21.93
7	3/14/80	17	38	0.180	0.2345	0.297	0.39	22.32
7	3/14/80	18	11	0.168	0.2095	0.266	0.55	22.47
7	3/14/80	18	30	0.149	0.1730	0.219	0.62	22.55
7	3/14/80	18	40	0.143	0.1623	0.206	0.66	22.58
7	3/14/80	18	51	0.137	0.1515	0.192	0.69	22.62
7	3/14/80	19	3	0.131	0.1407	0.178	0.73	22.66
7	3/14/80	19	17	0.125	0.1300	0.165	0.77	22.70
7	3/14/80	19	35	0.119	0.1203	0.153	0.82	22.74
7	3/14/80	19	57	0.113	0.1119	0.142	0.87	22.80
7	3/14/80	20	27	0.107	0.1034	0.131	0.94	22.87
7	3/14/80	20	55	0.104	0.0591	0.126	1.00	22.93
7	3/14/80	22	24	0.104	0.0591	0.126	1.19	23.11
7	3/14/80	23	29	0.107	0.1034	0.131	1.33	23.25
7	3/14/80	23	43	0.110	0.1076	0.136	1.36	23.28
7	3/14/80	23	56	0.113	0.1119	0.142	1.39	23.31
7	3/15/80	0	13	0.116	0.1161	0.147	1.43	23.35
7	3/15/80	0	30	0.119	0.1203	0.153	1.47	23.40
7	3/15/80	0	54	0.125	0.1300	0.165	1.54	23.46
7	3/15/80	1	16	0.131	0.1407	0.178	1.60	23.52
7	3/15/80	1	44	0.137	0.1515	0.192	1.68	23.61
7	3/15/80	2	18	0.143	0.1623	0.206	1.80	23.72
7	3/15/80	2	39	0.146	0.1676	0.212	1.87	23.80
7	3/15/80	3	6	0.149	0.1730	0.219	1.97	23.89
7	3/15/80	3	37	0.152	0.1784	0.226	2.08	24.01
7	3/15/80	4	2	0.155	0.1846	0.234	2.18	24.10
7	3/15/80	4	50	0.162	0.1571	0.250	2.37	24.30
7	3/15/80	5	32	0.168	0.2095	0.266	2.55	24.48
7	3/15/80	5	55	0.171	0.2158	0.274	2.66	24.58
7	3/15/80	6	15	0.174	0.2220	0.281	2.75	24.67
7	3/15/80	6	46	0.177	0.2282	0.289	2.90	24.82
7	3/15/80	6	59	0.180	0.2345	0.297	2.96	24.88
7	3/15/80	7	25	0.183	0.2407	0.305	3.09	25.01
7	3/15/80	7	44	0.186	0.2475	0.314	3.19	25.11
7	3/15/80	7	57	0.189	0.2543	0.322	3.26	25.18
7	3/15/80	8	9	0.192	0.2611	0.331	3.32	25.25
7	3/15/80	8	25	0.198	0.2747	0.348	3.41	25.34
7	3/15/80	8	34	0.201	0.2815	0.357	3.47	25.39
7	3/15/80	8	50	0.204	0.2883	0.365	3.56	25.49
7	3/15/80	9	11	0.204	0.2883	0.365	3.69	25.61
7	3/15/80	9	23	0.198	0.2747	0.348	3.76	25.69
7	3/15/80	9	33	0.204	0.2883	0.365	3.82	25.75
7	3/15/80	9	45	0.198	0.2747	0.348	3.89	25.82
7	3/15/80	9	47	0.195	0.2679	0.340	3.90	25.83
7	3/15/80	9	58	0.192	0.2611	0.331	3.96	25.89

TABLE D1- 9. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	3/15/80	10	31	0.192	0.2611	0.331	4.15	26.07
7	3/15/80	10	39	0.195	0.2679	0.340	4.19	26.12
7	3/15/80	10	47	0.201	0.2815	0.357	4.24	26.16
7	3/15/80	11	0	0.207	0.2951	0.374	4.32	26.24
7	3/15/80	11	10	0.201	0.2815	0.357	4.38	26.30
7	3/15/80	11	40	0.177	0.2282	0.289	4.54	26.46
7	3/15/80	11	54	0.180	0.2345	0.297	4.61	26.53
7	3/15/80	12	42	0.262	0.4298	0.545	4.94	26.87
7	3/15/80	13	0	0.317	0.6133	0.777	5.14	27.07
7	3/15/80	14	0	0.539	1.8222	2.310	6.69	28.61
7	3/15/80	15	0	0.576	2.0218	2.563	9.12	31.05
7	3/15/80	16	0	0.576	2.0218	2.563	11.69	33.61
7	3/15/80	17	0	0.463	1.4215	1.802	13.87	35.79
7	3/15/80	17	40	0.415	1.1497	1.457	14.95	36.88
7	3/15/80	18	40	0.347	0.7793	0.988	16.18	38.10
7	3/15/80	18	46	0.329	0.6802	0.862	16.27	38.19
7	3/15/80	20	0	0.283	0.4870	0.617	17.18	39.11
7	3/15/80	20	40	0.253	0.4061	0.515	17.56	39.48
7	3/15/80	21	12	0.238	0.3676	0.466	17.82	39.75
7	3/15/80	22	24	0.213	0.3067	0.391	18.34	40.26
7	3/15/80	23	0	0.201	0.2815	0.357	18.56	40.48
7	3/15/80	23	30	0.195	0.2679	0.340	18.73	40.66
7	3/16/80	0	52	0.177	0.2282	0.289	19.16	41.09
7	3/16/80	1	40	0.171	0.2158	0.274	19.39	41.31
7	3/16/80	2	30	0.165	0.2033	0.258	19.61	41.54
7	3/16/80	3	24	0.158	0.1909	0.242	19.83	41.76
7	3/16/80	4	10	0.152	0.1784	0.226	20.01	41.94
7	3/16/80	5	50	0.146	0.1676	0.212	20.38	42.30
7	3/16/80	10	34	0.149	0.1730	0.219	21.40	43.33
7	3/16/80	11	25	0.152	0.1784	0.226	21.59	43.52
7	3/16/80	12	13	0.162	0.1971	0.250	21.78	43.71
7	3/16/80	13	22	0.165	0.2033	0.258	22.07	44.00
7	3/16/80	14	9	0.162	0.1971	0.250	22.27	44.20
7	3/15/80	14	39	0.158	0.1909	0.242	22.39	44.32
7	3/16/80	15	10	0.155	0.1846	0.234	22.52	44.44
7	3/16/80	15	33	0.152	0.1784	0.226	22.61	44.53
7	3/16/80	15	47	0.149	0.1730	0.219	22.66	44.58
7	3/16/80	16	17	0.146	0.1676	0.212	22.77	44.69
7	3/16/80	16	58	0.140	0.1569	0.199	22.91	44.83
7	3/16/80	17	31	0.134	0.1461	0.185	23.01	44.94
7	3/16/80	17	59	0.128	0.1354	0.172	23.10	45.02
7	3/16/80	18	24	0.122	0.1246	0.158	23.16	45.09
7	3/16/80	18	46	0.116	0.1161	0.147	23.22	45.14
7	3/16/80	19	10	0.110	0.1076	0.136	23.28	45.20
7	3/16/80	19	33	0.104	0.0991	0.126	23.33	45.25
7	3/16/80	19	59	0.098	0.0906	0.115	23.38	45.30
7	3/16/80	20	13	0.094	0.0864	0.109	23.40	45.33
7	3/16/80	20	33	0.088	0.0784	0.099	23.44	45.36
7	3/16/80	20	57	0.082	0.0711	0.090	23.48	45.40
7	3/16/80	21	12	0.076	0.0637	0.081	23.50	45.42
7	3/16/80	21	21	0.073	0.0600	0.076	23.51	45.44
7	3/16/80	21	30	0.070	0.0564	0.071	23.52	45.45
7	3/16/80	21	42	0.061	0.0453	0.057	23.53	45.46
7	3/16/80	21	58	0.049	0.0328	0.042	23.55	45.47
7	3/16/80	22	7	0.043	0.0266	0.034	23.55	45.48
7	3/16/80	22	23	0.037	0.0204	0.026	23.56	45.49
7	3/16/80	22	30	0.034	0.0173	0.022	23.56	45.49
7	3/16/80	22	46	0.030	0.0142	0.018	23.57	45.49
7	3/16/80	23	45	0.027	0.0127	0.016	23.59	45.51
7	3/17/80	0	3	0.027	0.0127	0.016	23.59	45.52
7	3/17/80	0	8	0.030	0.0142	0.018	23.59	45.52
7	3/17/80	0	18	0.043	0.0266	0.034	23.60	45.52
7	3/17/80	0	33	0.055	0.0391	0.050	23.61	45.53
7	3/17/80	0	50	0.064	0.0490	0.062	23.62	45.55
7	3/17/80	1	2	0.070	0.0564	0.071	23.64	45.56
7	3/17/80	1	15	0.076	0.0637	0.081	23.65	45.58
7	3/17/80	1	41	0.079	0.0674	0.085	23.69	45.61
7	3/17/80	3	4	0.079	0.0674	0.085	23.81	45.73
7	3/17/80	6	30	0.0	0.0	0.0	23.95	45.88
7	3/17/80	12	45	0.0	0.0	0.0	23.95	45.88
7	3/17/80	14	0	0.037	0.0204	0.026	23.97	45.90
7	3/17/80	14	50	0.043	0.0266	0.034	23.99	45.92
7	3/17/80	16	3	0.046	0.0297	0.038	24.04	45.96
7	3/17/80	16	11	0.049	0.0328	0.042	24.04	45.97
7	3/17/80	16	29	0.061	0.0453	0.057	24.06	45.98
7	3/17/80	16	46	0.067	0.0527	0.067	24.08	46.00
7	3/17/80	18	7	0.067	0.0527	0.067	24.17	46.09
7	3/17/80	18	20	0.064	0.0490	0.062	24.18	46.11
7	3/17/80	18	37	0.061	0.0453	0.057	24.20	46.12
7	3/17/80	19	12	0.055	0.0391	0.050	24.23	46.15
7	3/17/80	19	50	0.049	0.0328	0.042	24.26	46.18
7	3/17/80	20	26	0.043	0.0266	0.034	24.28	46.20
7	3/17/80	20	40	0.037	0.0204	0.026	24.29	46.21
7	3/17/80	21	2	0.030	0.0142	0.018	24.29	46.22
7	3/17/80	22	50	0.027	0.0127	0.016	24.33	46.25
7	3/17/80	23	5	0.024	0.0113	0.014	24.33	46.25
7	3/17/80	23	30	0.018	0.0085	0.011	24.33	46.26
7	3/18/80	12	50	0.018	0.0085	0.011	24.48	46.40
7	3/18/80	12	52	0.030	0.0142	0.018	24.48	46.40
7	3/18/80	12	54	0.037	0.0204	0.026	24.48	46.40
7	3/18/80	12	57	0.040	0.0235	0.030	24.48	46.41
7	3/18/80	13	7	0.043	0.0266	0.034	24.49	46.41
7	3/18/80	13	21	0.046	0.0297	0.038	24.49	46.42
7	3/18/80	13	27	0.049	0.0328	0.042	24.50	46.42
7	3/18/80	13	42	0.052	0.0360	0.046	24.51	46.43
7	3/18/80	14	35	0.055	0.0391	0.050	24.55	46.48
7	3/18/80	15	9	0.055	0.0391	0.050	24.58	46.50
7	3/18/80	15	19	0.058	0.0422	0.053	24.59	46.51
7	3/18/80	15	22	0.061	0.0453	0.057	24.59	46.52
7	3/18/80	15	28	0.073	0.0600	0.076	24.60	46.52
7	3/18/80	15	33	0.079	0.0674	0.085	24.60	46.53
7	3/18/80	15	40	0.085	0.0748	0.095	24.61	46.54
7	3/18/80	15	56	0.088	0.0784	0.099	24.64	46.57
7	3/18/80	16	18	0.088	0.0784	0.099	24.68	46.60

TABLE D1- 9. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	3/18/80	17	18	0.085	0.0748	0.095	24.77	46.70
7	3/18/80	17	56	0.079	0.0674	0.085	24.83	46.76
7	3/18/80	18	25	0.073	0.0600	0.076	24.87	46.79
7	3/18/80	18	54	0.067	0.0527	0.067	24.90	46.83
7	3/18/80	19	17	0.061	0.0453	0.057	24.93	46.85
7	3/18/80	19	39	0.055	0.0391	0.050	24.95	46.87
7	3/18/80	20	4	0.049	0.0328	0.042	24.97	46.89
7	3/18/80	20	36	0.043	0.0266	0.034	24.99	46.91
7	3/18/80	20	54	0.040	0.0235	0.030	25.00	46.92
7	3/18/80	21	11	0.037	0.0204	0.026	25.00	46.93
7	3/18/80	21	31	0.034	0.0173	0.022	25.01	46.94
7	3/18/80	22	0	0.030	0.0142	0.018	25.02	46.95
7	3/18/80	24	0	0.015	0.0071	0.009	25.05	46.97
7	3/19/80	12	0	0.015	0.0071	0.009	25.16	47.08
7	3/19/80	12	34	0.030	0.0142	0.018	25.16	47.09
7	3/19/80	13	13	0.034	0.0173	0.022	25.18	47.10
7	3/19/80	13	44	0.037	0.0204	0.026	25.19	47.11
7	3/19/80	15	10	0.040	0.0235	0.030	25.23	47.15
7	3/19/80	16	49	0.037	0.0204	0.026	25.27	47.20
7	3/19/80	17	36	0.034	0.0173	0.022	25.29	47.22
7	3/19/80	18	28	0.030	0.0142	0.018	25.31	47.24
7	3/19/80	20	30	0.015	0.0071	0.009	25.34	47.26
7	3/19/80	23	59	0.0	0.0	0.0	25.35	47.28
7	5/27/80	19	7	0.0	0.0	0.0	0.0	47.28
7	5/27/80	19	11	0.030	0.0142	0.018	0.00	47.28
7	5/27/80	19	13	0.049	0.0328	0.042	0.00	47.28
7	5/27/80	19	15	0.146	0.1676	0.212	0.01	47.28
7	5/27/80	19	17	0.293	0.5125	0.650	0.02	47.30
7	5/27/80	19	19	0.360	0.8450	1.071	0.05	47.33
7	5/27/80	19	21	0.375	0.9288	1.177	0.09	47.37
7	5/27/80	19	23	0.360	0.8450	1.071	0.12	47.40
7	5/27/80	19	25	0.341	0.7464	0.946	0.16	47.44
7	5/27/80	19	27	0.314	0.5966	0.756	0.19	47.46
7	5/27/80	19	29	0.296	0.5210	0.660	0.21	47.49
7	5/27/80	19	31	0.283	0.4870	0.617	0.23	47.51
7	5/27/80	19	33	0.268	0.4457	0.565	0.25	47.53
7	5/27/80	19	35	0.244	0.3823	0.485	0.27	47.55
7	5/27/80	19	37	0.232	0.3528	0.447	0.28	47.56
7	5/27/80	19	39	0.223	0.3307	0.419	0.30	47.58
7	5/27/80	19	41	0.207	0.2951	0.374	0.31	47.59
7	5/27/80	19	45	0.189	0.2543	0.322	0.33	47.61
7	5/27/80	19	49	0.168	0.2095	0.266	0.35	47.63
7	5/27/80	19	57	0.140	0.1569	0.199	0.38	47.66
7	5/27/80	20	5	0.116	0.1161	0.147	0.41	47.69
7	5/27/80	20	13	0.098	0.0906	0.115	0.43	47.70
7	5/27/80	20	19	0.085	0.0748	0.095	0.44	47.71
7	5/27/80	20	27	0.076	0.0637	0.081	0.45	47.73
7	5/27/80	20	37	0.067	0.0527	0.067	0.46	47.74
7	5/27/80	20	43	0.061	0.0453	0.057	0.47	47.74
7	5/27/80	20	54	0.055	0.0391	0.050	0.48	47.75
7	5/27/80	21	7	0.049	0.0328	0.042	0.49	47.76
7	5/27/80	21	47	0.037	0.0204	0.026	0.51	47.79
7	5/27/80	24	0	0.021	0.0099	0.013	0.55	47.83
7	5/28/80	2	0	0.009	0.0042	0.005	0.57	47.85
7	5/28/80	4	0	0.0	0.0	0.0	0.57	47.85
7	5/29/80	2	23	0.0	0.0	0.0	0.0	47.85
7	5/29/80	2	27	0.040	0.0235	0.030	0.00	47.85
7	5/29/80	2	28	0.076	0.0637	0.081	0.00	47.85
7	5/29/80	2	29	0.113	0.1119	0.142	0.00	47.86
7	5/29/80	2	30	0.152	0.1784	0.226	0.01	47.86
7	5/29/80	2	31	0.174	0.2220	0.281	0.01	47.86
7	5/29/80	2	33	0.192	0.2611	0.331	0.02	47.87
7	5/29/80	2	35	0.195	0.2679	0.340	0.03	47.89
7	5/29/80	2	38	0.189	0.2543	0.322	0.05	47.90
7	5/29/80	2	41	0.201	0.2815	0.357	0.07	47.92
7	5/29/80	2	44	0.210	0.3019	0.383	0.08	47.94
7	5/29/80	2	47	0.204	0.2883	0.365	0.10	47.96
7	5/29/80	2	49	0.195	0.2679	0.340	0.11	47.97
7	5/29/80	2	51	0.183	0.2407	0.305	0.13	47.98
7	5/29/80	2	54	0.171	0.2158	0.274	0.14	47.99
7	5/29/80	2	59	0.155	0.1846	0.234	0.16	48.01
7	5/29/80	3	6	0.146	0.1676	0.212	0.19	48.04
7	5/29/80	3	11	0.137	0.1515	0.192	0.20	48.06
7	5/29/80	3	15	0.128	0.1354	0.172	0.22	48.07
7	5/29/80	3	20	0.116	0.1161	0.147	0.23	48.08
7	5/29/80	3	24	0.110	0.1076	0.136	0.24	48.09
7	5/29/80	3	31	0.104	0.0991	0.126	0.25	48.11
7	5/29/80	3	40	0.110	0.1076	0.136	0.27	48.13
7	5/29/80	3	46	0.113	0.1119	0.142	0.29	48.14
7	5/29/80	3	54	0.110	0.1076	0.136	0.31	48.16
7	5/29/80	4	7	0.101	0.0949	0.120	0.33	48.19
7	5/29/80	4	18	0.091	0.0821	0.104	0.35	48.21
7	5/29/80	4	25	0.085	0.0748	0.095	0.37	48.22
7	5/29/80	4	35	0.079	0.0674	0.085	0.38	48.23
7	5/29/80	4	47	0.073	0.0600	0.076	0.40	48.25
7	5/29/80	4	59	0.067	0.0527	0.067	0.41	48.26
7	5/29/80	5	13	0.061	0.0453	0.057	0.43	48.28
7	5/29/80	5	21	0.058	0.0422	0.053	0.43	48.29
7	5/29/80	5	29	0.055	0.0391	0.050	0.44	48.29
7	5/29/80	5	43	0.052	0.0360	0.046	0.45	48.30
7	5/29/80	6	6	0.049	0.0328	0.042	0.47	48.32
7	5/29/80	6	34	0.049	0.0328	0.042	0.49	48.34
7	5/29/80	7	14	0.046	0.0297	0.038	0.51	48.37
7	5/29/80	7	16	0.055	0.0391	0.050	0.52	48.37
7	5/29/80	7	17	0.070	0.0564	0.071	0.52	48.37
7	5/29/80	7	19	0.088	0.0784	0.099	0.52	48.37
7	5/29/80	7	20	0.101	0.0949	0.120	0.52	48.37
7	5/29/80	7	21	0.116	0.1161	0.147	0.52	48.38
7	5/29/80	7	22	0.128	0.1354	0.172	0.53	48.38
7	5/29/80	7	23	0.149	0.1730	0.219	0.53	48.38

TABLE D1- 9. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	5/29/80	7	24	0.186	0.2475	0.314	0.53	48.39
7	5/29/80	7	26	0.521	1.7287	2.191	0.58	48.43
7	5/29/80	7	29	0.704	2.7637	3.503	0.72	48.57
7	5/29/80	7	30	0.732	2.9166	3.697	0.78	48.63
7	5/29/80	7	31	0.762	3.0724	3.895	0.84	48.69
7	5/29/80	7	32	0.789	3.2125	4.072	0.91	48.76
7	5/29/80	7	33	0.820	3.3810	4.286	0.98	48.83
7	5/29/80	7	34	0.844	3.5170	4.458	1.05	48.90
7	5/29/80	7	35	0.884	3.7378	4.738	1.13	48.98
7	5/29/80	7	38	0.975	4.2926	5.442	1.38	49.23
7	5/29/80	7	39	1.000	4.4469	5.637	1.47	49.33
7	5/29/80	7	42	1.015	4.5432	5.759	1.76	49.61
7	5/29/80	7	48	1.027	4.6202	5.857	2.34	50.19
7	5/29/80	7	50	1.045	4.7357	6.003	2.54	50.39
7	5/29/80	7	51	1.061	4.8320	6.125	2.64	50.49
7	5/29/80	7	52	1.079	4.9453	6.269	2.74	50.59
7	5/29/80	7	55	1.097	5.0574	6.411	3.06	50.91
7	5/29/80	7	59	1.128	5.2443	6.648	3.49	51.35
7	5/29/80	8	1	1.106	5.1135	6.482	3.71	51.57
7	5/29/80	8	5	1.091	5.0200	6.363	4.14	51.99
7	5/29/80	8	8	1.061	4.8320	6.125	4.45	52.31
7	5/29/80	8	10	1.049	4.7550	6.027	4.66	52.51
7	5/29/80	8	11	1.027	4.6202	5.857	4.75	52.61
7	5/29/80	8	13	1.003	4.4661	5.661	4.95	52.80
7	5/29/80	8	15	0.972	4.2736	5.417	5.13	52.98
7	5/29/80	8	19	0.917	3.9270	4.978	5.48	53.33
7	5/29/80	8	20	0.899	3.8228	4.846	5.56	53.41
7	5/29/80	8	21	0.890	3.7716	4.781	5.64	53.49
7	5/29/80	8	22	0.869	3.6529	4.630	5.72	53.57
7	5/29/80	8	23	0.844	3.5170	4.458	5.79	53.65
7	5/29/80	8	25	0.808	3.3131	4.200	5.94	53.79
7	5/29/80	8	27	0.765	3.0880	3.914	6.07	53.93
7	5/29/80	8	28	0.750	3.0101	3.816	6.14	53.99
7	5/29/80	8	29	0.719	2.8487	3.611	6.20	54.05
7	5/29/80	8	30	0.704	2.7637	3.503	6.26	54.11
7	5/29/80	8	31	0.692	2.6958	3.417	6.32	54.17
7	5/29/80	8	32	0.683	2.6448	3.353	6.37	54.23
7	5/29/80	8	34	0.698	2.7297	3.460	6.49	54.34
7	5/29/80	8	35	0.728	2.8996	3.676	6.55	54.40
7	5/29/80	8	36	0.771	3.1191	3.954	6.61	54.46
7	5/29/80	8	39	1.152	5.3938	6.837	6.88	54.73
7	5/29/80	8	42	1.335	6.5367	8.286	7.26	55.11
7	5/29/80	8	43	1.347	6.6137	8.384	7.40	55.25
7	5/29/80	8	44	1.381	6.8272	8.654	7.54	55.39
7	5/29/80	8	47	1.393	6.9065	8.755	7.97	55.83
7	5/29/80	8	51	1.375	6.7875	8.604	8.55	56.40
7	5/29/80	8	53	1.359	6.6907	8.481	8.84	56.69
7	5/29/80	8	56	1.338	6.5559	8.310	9.26	57.11
7	5/29/80	8	58	1.308	6.3634	8.066	9.53	57.38
7	5/29/80	9	0	1.295	6.2863	7.969	9.80	57.65
7	5/29/80	9	1	1.283	6.2093	7.871	9.93	57.78
7	5/29/80	9	3	1.274	6.1515	7.798	10.19	58.04
7	5/29/80	9	7	1.213	5.7676	7.311	10.69	58.55
7	5/29/80	9	9	1.189	5.6181	7.121	10.93	58.79
7	5/29/80	9	11	1.167	5.4872	6.956	11.17	59.02
7	5/29/80	9	13	1.140	5.3190	6.742	11.40	59.25
7	5/29/80	9	15	1.109	5.1321	6.506	11.62	59.47
7	5/29/80	9	16	1.094	5.0387	6.387	11.73	59.56
7	5/29/80	9	17	1.073	4.9079	6.221	11.83	59.68
7	5/29/80	9	19	1.030	4.6394	5.881	12.03	59.88
7	5/29/80	9	21	0.991	4.3891	5.564	12.22	60.08
7	5/29/80	9	24	0.905	3.8568	4.889	12.48	60.34
7	5/29/80	9	25	0.887	3.7548	4.760	12.56	60.42
7	5/29/80	9	28	0.796	3.2451	4.114	12.79	60.64
7	5/29/80	9	29	0.738	2.9478	3.737	12.85	60.70
7	5/29/80	9	30	0.677	2.6108	3.309	12.91	60.76
7	5/29/80	9	32	0.607	2.1917	2.778	13.01	60.86
7	5/29/80	9	33	0.591	2.1088	2.671	13.06	60.91
7	5/29/80	9	34	0.570	1.9878	2.520	13.10	60.95
7	5/29/80	9	35	0.536	1.8066	2.290	13.14	60.99
7	5/29/80	9	36	0.506	1.6509	2.093	13.18	61.03
7	5/29/80	9	37	0.472	1.4725	1.867	13.21	61.06
7	5/29/80	9	38	0.442	1.3026	1.651	13.24	61.09
7	5/29/80	9	39	0.405	1.0987	1.393	13.26	61.12
7	5/29/80	9	40	0.387	0.9968	1.263	13.29	61.14
7	5/29/80	9	41	0.366	0.8778	1.113	13.31	61.16
7	5/29/80	9	42	0.351	0.7957	1.009	13.32	61.18
7	5/29/80	9	45	0.320	0.6300	0.799	13.37	61.22
7	5/29/80	9	46	0.308	0.5632	0.714	13.38	61.23
7	5/29/80	9	50	0.290	0.5040	0.639	13.43	61.28
7	5/29/80	9	52	0.277	0.4701	0.596	13.45	61.30
7	5/29/80	9	56	0.262	0.4298	0.545	13.49	61.34
7	5/29/80	9	59	0.274	0.4616	0.585	13.51	61.37
7	5/29/80	10	1	0.296	0.5210	0.660	13.54	61.39
7	5/29/80	10	4	0.396	1.0477	1.328	13.58	61.44
7	5/29/80	10	5	0.430	1.2346	1.565	13.61	61.46
7	5/29/80	10	6	0.475	1.4895	1.888	13.64	61.49
7	5/29/80	10	7	0.515	1.6976	2.152	13.67	61.52
7	5/29/80	10	8	0.533	1.7910	2.270	13.71	61.56
7	5/29/80	10	9	0.543	1.8378	2.330	13.75	61.60
7	5/29/80	10	11	0.558	1.9199	2.434	13.83	61.68
7	5/29/80	10	13	0.576	2.0218	2.563	13.91	61.76
7	5/29/80	10	16	0.585	2.0728	2.627	14.04	61.89
7	5/29/80	10	19	0.579	2.0388	2.584	14.17	62.02
7	5/29/80	10	21	0.567	1.9709	2.498	14.25	62.11
7	5/29/80	10	22	0.558	1.9199	2.434	14.30	62.15
7	5/29/80	10	23	0.546	1.8533	2.349	14.33	62.19
7	5/29/80	10	25	0.521	1.7287	2.191	14.41	62.26
7	5/29/80	10	26	0.512	1.6820	2.132	14.45	62.30
7	5/29/80	10	27	0.500	1.6197	2.053	14.48	62.33
7	5/29/80	10	28	0.485	1.5404	1.953	14.51	62.37
7	5/29/80	10	29	0.466	1.4385	1.823	14.55	62.40
7	5/29/80	10	30	0.451	1.3535	1.716	14.58	62.43
7	5/29/80	10	31	0.430	1.2346	1.565	14.60	62.46

TABLE D1- 9. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	5/29/80	10	32	0.418	1.1667	1.479	14.63	62.48
7	5/29/80	10	33	0.408	1.1157	1.414	14.65	62.50
7	5/29/80	10	35	0.387	0.9968	1.263	14.70	62.55
7	5/29/80	10	36	0.366	0.8778	1.113	14.72	62.57
7	5/29/80	10	38	0.354	0.8121	1.029	14.75	62.60
7	5/29/80	10	39	0.341	0.7464	0.946	14.77	62.62
7	5/29/80	10	42	0.326	0.6635	0.841	14.81	62.67
7	5/29/80	10	44	0.314	0.5966	0.756	14.84	62.69
7	5/29/80	10	46	0.302	0.5380	0.682	14.86	62.72
7	5/29/80	10	51	0.280	0.4786	0.607	14.92	62.77
7	5/29/80	10	53	0.265	0.4378	0.555	14.94	62.79
7	5/29/80	10	55	0.256	0.4140	0.525	14.96	62.81
7	5/29/80	10	59	0.244	0.3823	0.485	14.99	62.84
7	5/29/80	11	1	0.238	0.3676	0.466	15.01	62.86
7	5/29/80	11	6	0.226	0.3381	0.429	15.04	62.89
7	5/29/80	11	13	0.213	0.3087	0.391	15.09	62.94
7	5/29/80	11	16	0.207	0.2951	0.374	15.11	62.96
7	5/29/80	11	23	0.201	0.2815	0.357	15.15	63.00
7	5/29/80	11	27	0.195	0.2679	0.340	15.18	63.03
7	5/29/80	11	36	0.189	0.2543	0.322	15.22	63.08
7	5/29/80	11	43	0.183	0.2407	0.305	15.26	63.11
7	5/29/80	11	47	0.177	0.2282	0.289	15.28	63.13
7	5/29/80	11	53	0.171	0.2158	0.274	15.31	63.16
7	5/29/80	12	0	0.165	0.2033	0.258	15.34	63.19
7	5/29/80	12	10	0.158	0.1909	0.242	15.38	63.23
7	5/29/80	12	16	0.155	0.1846	0.234	15.41	63.26
7	5/29/80	12	23	0.152	0.1784	0.226	15.43	63.28
7	5/29/80	12	30	0.152	0.1784	0.226	15.46	63.31
7	5/29/80	12	40	0.149	0.1730	0.219	15.50	63.35
7	5/29/80	12	49	0.146	0.1676	0.212	15.53	63.38
7	5/29/80	12	55	0.146	0.1676	0.212	15.55	63.40
7	5/29/80	13	10	0.143	0.1623	0.206	15.60	63.45
7	5/29/80	13	50	0.140	0.1569	0.199	15.74	63.59
7	5/29/80	14	41	0.137	0.1515	0.192	15.90	63.75
7	5/29/80	14	58	0.134	0.1461	0.185	15.96	63.81
7	5/29/80	16	0	0.128	0.1354	0.172	16.14	63.99
7	5/29/80	17	0	0.122	0.1246	0.158	16.31	64.15
7	5/29/80	18	0	0.116	0.1161	0.147	16.46	64.31
7	5/29/80	19	0	0.110	0.1076	0.136	16.60	64.45
7	5/29/80	20	0	0.104	0.0991	0.126	16.73	64.58
7	5/29/80	21	0	0.098	0.0906	0.115	16.85	64.70
7	5/29/80	22	0	0.091	0.0821	0.104	16.96	64.81
7	5/29/80	23	0	0.079	0.0674	0.085	17.06	64.91
7	5/29/80	24	0	0.067	0.0527	0.067	17.13	64.98
7	5/30/80	0	16	0.067	0.0527	0.067	17.15	65.00
7	5/30/80	0	18	0.125	0.1300	0.165	17.15	65.00
7	5/30/80	0	20	0.140	0.1569	0.199	17.16	65.01
7	5/30/80	0	22	0.152	0.1784	0.226	17.17	65.02
7	5/30/80	0	26	0.171	0.2158	0.274	17.18	65.03
7	5/30/80	0	27	0.195	0.2679	0.340	17.19	65.04
7	5/30/80	0	30	0.460	1.4045	1.780	17.24	65.09
7	5/30/80	0	31	0.488	1.5574	1.974	17.27	65.12
7	5/30/80	0	32	0.518	1.7132	2.172	17.31	65.16
7	5/30/80	0	33	0.597	2.1408	2.714	17.35	65.20
7	5/30/80	0	36	0.655	2.4848	3.150	17.49	65.35
7	5/30/80	0	40	0.631	2.3376	2.963	17.70	65.55
7	5/30/80	0	41	0.622	2.2823	2.893	17.75	65.60
7	5/30/80	0	42	0.607	2.1917	2.778	17.79	65.65
7	5/30/80	0	43	0.597	2.1408	2.714	17.84	65.69
7	5/30/80	0	45	0.591	2.1068	2.671	17.93	65.78
7	5/30/80	0	46	0.570	1.9878	2.520	17.97	65.82
7	5/30/80	0	47	0.555	1.9029	2.412	18.01	65.87
7	5/30/80	0	49	0.524	1.7443	2.211	18.09	65.94
7	5/30/80	0	50	0.506	1.6509	2.093	18.13	65.98
7	5/30/80	0	51	0.485	1.5404	1.953	18.16	66.01
7	5/30/80	0	52	0.469	1.4555	1.845	18.19	66.04
7	5/30/80	0	53	0.451	1.3535	1.716	18.22	66.07
7	5/30/80	0	54	0.436	1.2686	1.608	18.25	66.10
7	5/30/80	0	55	0.418	1.1667	1.479	18.27	66.13
7	5/30/80	0	56	0.405	1.0987	1.393	18.30	66.15
7	5/30/80	0	57	0.390	1.0137	1.285	18.32	66.17
7	5/30/80	0	58	0.378	0.9458	1.199	18.34	66.19
7	5/30/80	0	59	0.363	0.8614	1.092	18.36	66.21
7	5/30/80	1	0	0.354	0.8121	1.029	18.38	66.23
7	5/30/80	1	4	0.320	0.6300	0.799	18.44	66.29
7	5/30/80	1	5	0.308	0.5632	0.714	18.45	66.30
7	5/30/80	1	6	0.299	0.5295	0.671	18.46	66.32
7	5/30/80	1	9	0.280	0.4786	0.607	18.50	66.35
7	5/30/80	1	13	0.265	0.4378	0.555	18.53	66.39
7	5/30/80	1	15	0.247	0.3902	0.495	18.55	66.40
7	5/30/80	1	18	0.232	0.3528	0.447	18.58	66.43
7	5/30/80	1	21	0.229	0.3455	0.438	18.60	66.45
7	5/30/80	1	26	0.223	0.3307	0.419	18.63	66.48
7	5/30/80	1	29	0.232	0.3528	0.447	18.65	66.51
7	5/30/80	1	31	0.250	0.3981	0.505	18.67	66.52
7	5/30/80	1	32	0.259	0.4219	0.535	18.68	66.53
7	5/30/80	1	33	0.262	0.4298	0.545	18.69	66.54
7	5/30/80	1	43	0.226	0.3381	0.429	18.77	66.62
7	5/30/80	1	55	0.213	0.3087	0.391	18.85	66.70
7	5/30/80	3	26	0.165	0.2033	0.258	19.34	67.20
7	5/30/80	3	59	0.155	0.1846	0.234	19.48	67.33
7	5/30/80	4	14	0.152	0.1784	0.226	19.54	67.39
7	5/30/80	4	42	0.149	0.1730	0.219	19.64	67.49
7	5/30/80	14	13	0.107	0.1034	0.131	21.31	69.16
7	5/30/80	15	39	0.104	0.0991	0.126	21.49	69.34
7	5/30/80	16	10	0.101	0.0949	0.120	21.55	69.41
7	5/30/80	18	30	0.098	0.0906	0.115	21.83	69.68
7	5/30/80	23	23	0.098	0.0906	0.115	22.39	70.24
7	5/30/80	23	54	0.094	0.0864	0.109	22.45	70.30
7	5/31/80	0	46	0.091	0.0821	0.104	22.54	70.39
7	5/31/80	3	0	0.064	0.0490	0.062	22.73	70.58
7	5/31/80	6	0	0.040	0.0235	0.030	22.86	70.72
7	5/31/80	9	0	0.018	0.0085	0.011	22.92	70.78
7	5/31/80	12	0	0.0	0.0	0.0	22.94	70.79

TABLE D1- 9. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	6/ 2/80	16	30	0.0	0.0	0.0	0.0	70.79
7	6/ 2/80	16	32	0.082	0.0711	0.090	0.0	70.79
7	6/ 2/80	16	34	0.088	0.0784	0.099	0.01	70.80
7	6/ 2/80	16	36	0.098	0.0906	0.115	0.01	70.80
7	6/ 2/80	16	38	0.110	0.1076	0.136	0.01	70.80
7	6/ 2/80	16	39	0.131	0.1407	0.178	0.02	70.81
7	6/ 2/80	16	40	0.177	0.2282	0.289	0.02	70.81
7	6/ 2/80	16	43	0.466	1.4385	1.823	0.07	70.86
7	6/ 2/80	16	44	0.521	1.7287	2.191	0.11	70.90
7	6/ 2/80	16	47	0.728	2.8996	3.676	0.25	71.04
7	6/ 2/80	16	48	0.759	3.0568	3.875	0.32	71.11
7	6/ 2/80	16	49	0.802	3.2791	4.157	0.38	71.17
7	6/ 2/80	16	50	0.856	3.5849	4.544	0.45	71.25
7	6/ 2/80	16	53	1.027	4.6202	5.857	0.71	71.51
7	6/ 2/80	16	54	1.088	5.0013	6.340	0.82	71.61
7	6/ 2/80	16	55	1.164	5.4685	6.932	0.93	71.72
7	6/ 2/80	17	0	1.295	6.2863	7.969	1.55	72.34
7	6/ 2/80	17	1	1.308	6.3634	8.066	1.68	72.47
7	6/ 2/80	17	5	1.326	6.4789	8.213	2.22	73.02
7	6/ 2/80	17	8	1.314	6.4019	8.115	2.63	73.42
7	6/ 2/80	17	12	1.335	6.5367	8.286	3.18	73.97
7	6/ 2/80	17	14	1.362	6.7100	8.506	3.46	74.25
7	6/ 2/80	17	16	1.393	6.9065	8.755	3.75	74.54
7	6/ 2/80	17	19	1.417	7.0651	8.956	4.19	74.98
7	6/ 2/80	17	22	1.445	7.2435	9.182	4.64	75.43
7	6/ 2/80	17	27	1.472	7.4218	9.408	5.42	76.21
7	6/ 2/80	17	29	1.494	7.5606	9.584	5.73	76.53
7	6/ 2/80	17	33	1.475	7.4417	9.433	6.37	77.16
7	6/ 2/80	17	39	1.436	7.1840	9.106	7.29	78.09
7	6/ 2/80	17	43	1.414	7.0452	8.931	7.90	78.69
7	6/ 2/80	17	45	1.387	6.8668	8.704	8.19	78.98
7	6/ 2/80	17	47	1.372	6.7677	8.579	8.48	79.27
7	6/ 2/80	17	48	1.353	6.6522	8.432	8.62	79.41
7	6/ 2/80	17	50	1.335	6.5367	8.286	8.90	79.69
7	6/ 2/80	17	51	1.320	6.4404	8.164	9.04	79.83
7	6/ 2/80	17	52	1.298	6.3056	7.993	9.17	79.96
7	6/ 2/80	17	53	1.274	6.1515	7.798	9.30	80.09
7	6/ 2/80	17	56	1.234	5.9012	7.480	9.68	80.48
7	6/ 2/80	17	58	1.210	5.7489	7.287	9.93	80.72
7	6/ 2/80	18	0	1.189	5.6181	7.121	10.11	80.96
7	6/ 2/80	18	2	1.180	5.5620	7.050	10.41	81.20
7	6/ 2/80	18	3	1.158	5.4312	6.885	10.52	81.31
7	6/ 2/80	18	4	1.143	5.3377	6.766	10.64	81.43
7	6/ 2/80	18	6	1.116	5.1695	6.553	10.86	81.65
7	6/ 2/80	18	8	1.082	4.9639	6.292	11.07	81.86
7	6/ 2/80	18	10	1.052	4.7742	6.052	11.28	82.07
7	6/ 2/80	18	12	1.015	4.5432	5.759	11.47	82.27
7	6/ 2/80	18	14	0.975	4.2928	5.442	11.66	82.45
7	6/ 2/80	18	17	0.911	3.8907	4.932	11.92	82.71
7	6/ 2/80	18	18	0.893	3.7888	4.803	12.00	82.79
7	6/ 2/80	18	19	0.872	3.6699	4.652	12.08	82.87
7	6/ 2/80	18	20	0.860	3.6019	4.566	12.16	82.95
7	6/ 2/80	18	21	0.841	3.5000	4.437	12.23	83.02
7	6/ 2/80	18	22	0.823	3.3980	4.307	12.30	83.10
7	6/ 2/80	18	23	0.805	3.2961	4.178	12.38	83.17
7	6/ 2/80	18	24	0.786	3.1970	4.052	12.44	83.24
7	6/ 2/80	18	25	0.771	3.1191	3.954	12.51	83.30
7	6/ 2/80	18	26	0.753	3.0257	3.835	12.58	83.37
7	6/ 2/80	18	27	0.735	2.9322	3.717	12.64	83.43
7	6/ 2/80	18	28	0.701	2.7467	3.482	12.70	83.49
7	6/ 2/80	18	29	0.674	2.5938	3.288	12.76	83.55
7	6/ 2/80	18	32	0.610	2.2087	2.800	12.91	83.70
7	6/ 2/80	18	34	0.582	2.0558	2.606	13.00	83.79
7	6/ 2/80	18	35	0.564	1.9539	2.477	13.04	83.83
7	6/ 2/80	18	36	0.546	1.8533	2.349	13.08	83.87
7	6/ 2/80	18	38	0.485	1.5404	1.953	13.15	83.94
7	6/ 2/80	18	42	0.421	1.1836	1.500	13.27	84.06
7	6/ 2/80	18	44	0.381	0.9628	1.220	13.31	84.10
7	6/ 2/80	18	46	0.335	0.7136	0.905	13.35	84.14
7	6/ 2/80	18	49	0.305	0.5465	0.693	13.39	84.18
7	6/ 2/80	18	50	0.290	0.5040	0.639	13.40	84.19
7	6/ 2/80	18	52	0.274	0.4616	0.585	13.42	84.21
7	6/ 2/80	18	56	0.256	0.4140	0.525	13.46	84.25
7	6/ 2/80	19	1	0.238	0.3676	0.466	13.50	84.29
7	6/ 2/80	19	7	0.219	0.3234	0.410	13.54	84.33
7	6/ 2/80	19	13	0.207	0.2951	0.374	13.58	84.37
7	6/ 2/80	19	25	0.195	0.2679	0.340	13.65	84.44
7	6/ 2/80	19	35	0.183	0.2407	0.305	13.71	84.50
7	6/ 2/80	19	42	0.177	0.2282	0.289	13.74	84.53
7	6/ 2/80	19	51	0.171	0.2158	0.274	13.78	84.57
7	6/ 2/80	19	59	0.165	0.2033	0.258	13.82	84.61
7	6/ 2/80	20	10	0.162	0.1971	0.250	13.86	84.66
7	6/ 2/80	20	19	0.158	0.1909	0.242	13.90	84.69
7	6/ 2/80	20	36	0.155	0.1846	0.234	13.97	84.76
7	6/ 2/80	20	56	0.152	0.1784	0.226	14.05	84.84
7	6/ 2/80	21	19	0.149	0.1730	0.219	14.13	84.92
7	6/ 2/80	21	50	0.146	0.1676	0.212	14.24	85.03
7	6/ 3/80	0	32	0.134	0.1461	0.185	14.78	85.57
7	6/ 3/80	2	38	0.125	0.1300	0.165	15.15	85.94
7	6/ 3/80	3	26	0.122	0.1246	0.158	15.28	86.07
7	6/ 3/80	5	1	0.116	0.1161	0.147	15.52	86.31
7	6/ 3/80	6	58	0.110	0.1076	0.136	15.79	86.59
7	6/ 3/80	8	2	0.107	0.1034	0.131	15.94	86.73
7	6/ 3/80	8	58	0.104	0.0991	0.126	16.06	86.85
7	6/ 3/80	12	28	0.098	0.0906	0.115	16.48	87.27
7	6/ 3/80	15	0	0.067	0.0527	0.067	16.71	87.50
7	6/ 3/80	18	0	0.040	0.0235	0.030	16.85	87.64
7	6/ 3/80	21	0	0.015	0.0071	0.009	16.91	87.70
7	6/ 3/80	24	0	0.0	0.0	0.0	16.92	87.71
7	6/ 7/80	4	47	0.0	0.0	0.0	0.0	87.71
7	6/ 7/80	4	52	0.046	0.0297	0.038	0.00	87.72
7	6/ 7/80	4	53	0.067	0.0527	0.067	0.00	87.72

TABLE D1- 9. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	6/ 7/80	4	56	0.091	0.0821	0.104	0.01	87.72
7	6/ 7/80	4	57	0.131	0.1407	0.178	0.01	87.72
7	6/ 7/80	5	0	0.448	1.3366	1.694	0.06	87.77
7	6/ 7/80	5	1	0.497	1.6041	2.033	0.09	87.80
7	6/ 7/80	5	2	0.570	1.9878	2.520	0.12	87.84
7	6/ 7/80	5	3	0.576	2.0218	2.563	0.17	87.88
7	6/ 7/80	5	4	0.570	1.9878	2.520	0.21	87.92
7	6/ 7/80	5	5	0.558	1.9199	2.434	0.25	87.97
7	6/ 7/80	5	6	0.567	1.9709	2.498	0.29	88.01
7	6/ 7/80	5	7	0.582	2.0558	2.606	0.33	88.05
7	6/ 7/80	5	8	0.594	2.1238	2.692	0.38	88.09
7	6/ 7/80	5	10	0.604	2.1747	2.757	0.47	88.18
7	6/ 7/80	5	18	0.591	2.1068	2.671	0.83	88.55
7	6/ 7/80	5	20	0.582	2.0558	2.606	0.92	88.63
7	6/ 7/80	5	22	0.570	1.9878	2.520	1.00	88.72
7	6/ 7/80	5	23	0.558	1.9199	2.434	1.05	88.76
7	6/ 7/80	5	24	0.549	1.8689	2.369	1.09	88.80
7	6/ 7/80	5	25	0.536	1.8066	2.290	1.12	88.84
7	6/ 7/80	5	27	0.512	1.6820	2.132	1.20	88.91
7	6/ 7/80	5	28	0.479	1.5065	1.910	1.23	88.95
7	6/ 7/80	5	31	0.448	1.3366	1.694	1.32	89.04
7	6/ 7/80	5	32	0.421	1.1836	1.500	1.35	89.06
7	6/ 7/80	5	33	0.405	1.0987	1.393	1.37	89.09
7	6/ 7/80	5	34	0.390	1.0137	1.285	1.40	89.11
7	6/ 7/80	5	35	0.375	0.9286	1.177	1.42	89.13
7	6/ 7/80	5	37	0.357	0.8285	1.050	1.45	89.17
7	6/ 7/80	5	39	0.329	0.6802	0.862	1.48	89.20
7	6/ 7/80	5	41	0.305	0.5465	0.693	1.51	89.23
7	6/ 7/80	5	43	0.287	0.4955	0.628	1.53	89.25
7	6/ 7/80	5	45	0.268	0.4457	0.565	1.55	89.27
7	6/ 7/80	5	48	0.253	0.4061	0.515	1.58	89.29
7	6/ 7/80	5	51	0.238	0.3676	0.466	1.60	89.32
7	6/ 7/80	5	54	0.226	0.3381	0.429	1.63	89.34
7	6/ 7/80	5	57	0.213	0.3087	0.391	1.65	89.36
7	6/ 7/80	5	59	0.207	0.2951	0.374	1.66	89.37
7	6/ 7/80	6	3	0.195	0.2679	0.340	1.68	89.40
7	6/ 7/80	6	7	0.189	0.2543	0.322	1.71	89.42
7	6/ 7/80	6	11	0.174	0.2220	0.281	1.73	89.44
7	6/ 7/80	6	15	0.165	0.2033	0.258	1.74	89.46
7	6/ 7/80	6	19	0.158	0.1909	0.242	1.76	89.47
7	6/ 7/80	6	23	0.152	0.1784	0.226	1.78	89.49
7	6/ 7/80	6	31	0.140	0.1569	0.199	1.80	89.52
7	6/ 7/80	9	0	0.094	0.0864	0.109	2.19	89.90
7	6/ 7/80	12	0	0.055	0.0391	0.050	2.43	90.14
7	6/ 7/80	15	0	0.024	0.0113	0.014	2.52	90.24
7	6/ 7/80	18	0	0.0	0.0	0.0	2.54	90.26
7	6/13/80	21	44	0.0	0.0	0.0	0.0	90.26
7	6/13/80	21	50	0.122	0.1240	0.158	0.01	90.27
7	6/13/80	21	51	0.174	0.2220	0.281	0.01	90.27
7	6/13/80	21	52	0.198	0.2747	0.348	0.02	90.27
7	6/13/80	21	53	0.201	0.2815	0.357	0.02	90.28
7	6/13/80	21	55	0.195	0.2679	0.340	0.03	90.29
7	6/13/80	22	0	0.171	0.2158	0.274	0.06	90.32
7	6/13/80	22	3	0.165	0.2033	0.258	0.07	90.33
7	6/13/80	22	6	0.180	0.2345	0.297	0.09	90.34
7	6/13/80	22	7	0.186	0.2475	0.314	0.09	90.35
7	6/13/80	22	8	0.201	0.2815	0.357	0.10	90.36
7	6/13/80	22	9	0.213	0.3087	0.391	0.10	90.36
7	6/13/80	22	10	0.226	0.3381	0.429	0.11	90.37
7	6/13/80	22	11	0.235	0.3602	0.457	0.12	90.38
7	6/13/80	22	15	0.244	0.3823	0.485	0.15	90.41
7	6/13/80	22	21	0.219	0.3234	0.410	0.19	90.45
7	6/13/80	22	24	0.201	0.2815	0.357	0.21	90.47
7	6/13/80	22	27	0.195	0.2679	0.340	0.23	90.49
7	6/13/80	22	30	0.192	0.2611	0.331	0.25	90.50
7	6/13/80	22	34	0.177	0.2282	0.289	0.27	90.53
7	6/13/80	22	40	0.152	0.1784	0.226	0.29	90.55
7	6/13/80	22	47	0.140	0.1569	0.199	0.32	90.58
7	6/14/80	1	0	0.085	0.0748	0.095	0.64	90.90
7	6/14/80	3	0	0.046	0.0297	0.038	0.78	91.03
7	6/14/80	5	0	0.012	0.0057	0.007	0.82	91.08
7	6/14/80	6	0	0.0	0.0	0.0	0.83	91.08
7	6/15/80	3	18	0.0	0.0	0.0	0.0	91.08
7	6/15/80	3	28	0.134	0.1461	0.185	0.02	91.10
7	6/15/80	3	29	0.168	0.2095	0.266	0.02	91.10
7	6/15/80	3	30	0.192	0.2611	0.331	0.02	91.11
7	6/15/80	3	31	0.207	0.2951	0.374	0.03	91.11
7	6/15/80	3	32	0.216	0.3160	0.401	0.04	91.12
7	6/15/80	3	33	0.226	0.3381	0.429	0.04	91.13
7	6/15/80	3	34	0.235	0.3602	0.457	0.05	91.13
7	6/15/80	3	36	0.244	0.3823	0.485	0.07	91.15
7	6/15/80	3	38	0.247	0.3902	0.495	0.08	91.17
7	6/15/80	3	40	0.244	0.3823	0.485	0.10	91.18
7	6/15/80	3	44	0.226	0.3381	0.429	0.13	91.21
7	6/15/80	3	50	0.207	0.2951	0.374	0.17	91.25
7	6/15/80	3	57	0.186	0.2475	0.314	0.21	91.29
7	6/15/80	4	1	0.183	0.2407	0.305	0.23	91.31
7	6/15/80	4	6	0.195	0.2679	0.340	0.26	91.34
7	6/15/80	4	9	0.198	0.2747	0.348	0.27	91.36
7	6/15/80	4	15	0.195	0.2679	0.340	0.31	91.39
7	6/15/80	4	25	0.183	0.2407	0.305	0.36	91.44
7	6/15/80	4	36	0.158	0.1909	0.242	0.41	91.49
7	6/15/80	6	0	0.110	0.1076	0.136	0.68	91.76
7	6/15/80	8	0	0.067	0.0527	0.067	0.88	91.96
7	6/15/80	10	0	0.030	0.0142	0.018	0.97	92.05
7	6/15/80	12	0	0.0	0.0	0.0	0.98	92.07
7	8/ 6/80	1	57	0.0	0.0	0.0	0.0	92.07
7	8/ 6/80	1	58	0.012	0.0057	0.007	0.00	92.07

TABLE D1- 9. CONCLUDED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
7	8/ 6/80	1	59	0.021	0.0099	0.013	0.00	92.07
7	8/ 6/80	2	3	0.021	0.0099	0.013	0.00	92.07
7	8/ 6/80	2	11	0.018	0.0085	0.011	0.00	92.07
7	8/ 6/80	2	19	0.018	0.0085	0.011	0.00	92.07
7	8/ 6/80	2	22	0.021	0.0099	0.013	0.00	92.07
7	8/ 6/80	2	30	0.021	0.0099	0.013	0.01	92.07
7	8/ 6/80	2	35	0.018	0.0085	0.011	0.01	92.07
7	8/ 6/80	2	43	0.015	0.0071	0.009	0.01	92.07
7	8/ 6/80	2	53	0.012	0.0057	0.007	0.01	92.08
7	8/ 6/80	3	23	0.009	0.0042	0.005	0.01	92.08
7	8/ 6/80	3	53	0.006	0.0028	0.004	0.02	92.08
7	8/ 6/80	4	17	0.003	0.0014	0.002	0.02	92.08
7	8/ 6/80	4	35	0.0	0.0	0.0	0.02	92.08
7	8/11/80	4	16	0.0	0.0	0.0	0.0	92.08
7	8/11/80	4	24	0.015	0.0071	0.009	0.00	92.08
7	8/11/80	4	26	0.021	0.0099	0.013	0.00	92.08
7	8/11/80	4	31	0.021	0.0099	0.013	0.00	92.08
7	8/11/80	4	34	0.018	0.0085	0.011	0.00	92.08
7	8/11/80	4	37	0.015	0.0071	0.009	0.00	92.09
7	8/11/80	4	46	0.012	0.0057	0.007	0.00	92.09
7	8/11/80	5	8	0.015	0.0071	0.009	0.01	92.09
7	8/11/80	5	15	0.018	0.0085	0.011	0.01	92.09
7	8/11/80	5	20	0.021	0.0099	0.013	0.01	92.09
7	8/11/80	5	25	0.024	0.0113	0.014	0.01	92.09
7	8/11/80	5	33	0.027	0.0127	0.016	0.01	92.09
7	8/11/80	5	42	0.030	0.0142	0.018	0.02	92.10
7	8/11/80	5	52	0.034	0.0173	0.022	0.02	92.10
7	8/11/80	6	4	0.037	0.0204	0.026	0.02	92.11
7	8/11/80	6	40	0.037	0.0204	0.026	0.04	92.12
7	8/11/80	6	53	0.034	0.0173	0.022	0.04	92.13
7	8/11/80	7	2	0.030	0.0142	0.018	0.05	92.13
7	8/11/80	8	4	0.030	0.0142	0.018	0.07	92.15
7	8/11/80	8	20	0.027	0.0127	0.016	0.07	92.15
7	8/11/80	8	39	0.024	0.0113	0.014	0.07	92.16
7	8/11/80	9	0	0.021	0.0099	0.013	0.08	92.16
7	8/11/80	9	16	0.018	0.0085	0.011	0.08	92.16
7	8/11/80	9	35	0.015	0.0071	0.009	0.09	92.17
7	8/11/80	10	0	0.012	0.0057	0.007	0.09	92.17
7	8/11/80	10	32	0.009	0.0042	0.005	0.09	92.17
7	8/11/80	11	20	0.006	0.0028	0.004	0.10	92.18
7	8/11/80	11	50	0.003	0.0014	0.002	0.10	92.18
7	8/11/80	12	38	0.0	0.0	0.0	0.10	92.18
7	8/16/80	9	42	0.0	0.0	0.0	0.0	92.18
7	8/16/80	9	44	0.006	0.0028	0.004	0.00	92.18
7	8/16/80	9	47	0.012	0.0057	0.007	0.00	92.18
7	8/16/80	9	51	0.018	0.0085	0.011	0.00	92.18
7	8/16/80	9	54	0.024	0.0113	0.014	0.00	92.18
7	8/16/80	10	2	0.021	0.0099	0.013	0.00	92.18
7	8/16/80	10	9	0.021	0.0099	0.013	0.00	92.18
7	8/16/80	10	14	0.024	0.0113	0.014	0.01	92.19
7	8/16/80	10	20	0.024	0.0113	0.014	0.01	92.19
7	8/16/80	10	24	0.027	0.0127	0.016	0.01	92.19
7	8/16/80	10	27	0.030	0.0142	0.018	0.01	92.19
7	8/16/80	10	35	0.034	0.0173	0.022	0.01	92.19
7	8/16/80	10	39	0.034	0.0173	0.022	0.01	92.19
7	8/16/80	10	50	0.037	0.0204	0.026	0.02	92.20
7	8/16/80	11	4	0.040	0.0235	0.030	0.02	92.20
7	8/16/80	11	14	0.043	0.0266	0.034	0.03	92.21
7	8/16/80	11	30	0.046	0.0297	0.038	0.04	92.22
7	8/16/80	11	57	0.049	0.0328	0.042	0.06	92.24
7	8/16/80	12	15	0.046	0.0297	0.038	0.07	92.25
7	8/16/80	12	31	0.043	0.0266	0.034	0.08	92.26
7	8/16/80	12	43	0.046	0.0297	0.038	0.09	92.27
7	8/16/80	12	46	0.049	0.0328	0.042	0.09	92.27
7	8/16/80	13	9	0.052	0.0360	0.046	0.10	92.28
7	8/16/80	13	35	0.049	0.0328	0.042	0.12	92.30
7	8/16/80	13	58	0.046	0.0297	0.038	0.14	92.32
7	8/16/80	14	35	0.043	0.0266	0.034	0.16	92.34
7	8/16/80	14	55	0.040	0.0235	0.030	0.17	92.35
7	8/16/80	15	7	0.037	0.0204	0.026	0.18	92.36
7	8/16/80	15	18	0.034	0.0173	0.022	0.18	92.36
7	8/16/80	15	40	0.030	0.0142	0.018	0.19	92.37
7	8/16/80	16	30	0.027	0.0127	0.016	0.20	92.38
7	8/16/80	16	46	0.024	0.0113	0.014	0.21	92.39
7	8/16/80	17	0	0.021	0.0099	0.013	0.21	92.39
7	8/16/80	17	14	0.018	0.0085	0.011	0.21	92.39
7	8/16/80	17	35	0.015	0.0071	0.009	0.22	92.40
7	8/16/80	17	56	0.012	0.0057	0.007	0.22	92.40
7	8/16/80	18	37	0.006	0.0028	0.004	0.22	92.40
7	8/16/80	18	45	0.0	0.0	0.0	0.22	92.40

TABLE D1-10. FOUR MILE CREEK WATERSHED RUNOFF DATA FOR 1980 SITE 8

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	1/16/80	13	0	0.0	0.0	0.0	0.0	0.0
8	1/16/80	17	30	0.046	0.1713	0.414	0.93	0.93
8	1/16/80	23	30	0.0	0.0	0.0	2.17	2.17
8	2/20/80	8	0	0.0	0.0	0.0	0.0	2.17
8	2/21/80	6	48	0.009	0.0263	0.064	0.73	2.90
8	2/21/80	7	34	0.012	0.0351	0.085	0.78	2.96
8	2/21/80	8	11	0.015	0.0439	0.106	0.84	3.01
8	2/21/80	8	58	0.018	0.0527	0.127	0.93	3.11
8	2/21/80	9	24	0.021	0.0614	0.148	0.99	3.17
8	2/21/80	9	50	0.024	0.0702	0.170	1.01	3.18
8	2/21/80	9	44	0.027	0.0790	0.191	1.05	3.22
8	2/21/80	10	13	0.030	0.0878	0.212	1.15	3.32
8	2/21/80	10	29	0.034	0.1045	0.252	1.21	3.38
8	2/21/80	10	49	0.037	0.1212	0.293	1.30	3.47
8	2/21/80	11	36	0.040	0.1379	0.333	1.55	3.72
8	2/21/80	11	50	0.043	0.1546	0.374	1.63	3.80
8	2/21/80	11	58	0.052	0.2047	0.495	1.69	3.86
8	2/21/80	12	10	0.052	0.2047	0.495	1.78	3.96
8	2/21/80	12	14	0.058	0.2381	0.575	1.82	3.99
8	2/21/80	12	22	0.085	0.4338	1.048	1.93	4.10
8	2/21/80	12	30	0.107	0.6159	1.486	2.10	4.27
8	2/21/80	12	38	0.101	0.5610	1.355	2.29	4.46
8	2/21/80	12	46	0.116	0.6983	1.687	2.49	4.66
8	2/21/80	13	0	0.113	0.6708	1.621	2.88	5.05
8	2/21/80	13	4	0.110	0.6434	1.554	2.98	5.16
8	2/21/80	13	9	0.128	0.8178	1.976	3.13	5.30
8	2/21/80	13	23	0.134	0.8824	2.132	3.61	5.78
8	2/21/80	13	26	0.155	1.1129	2.689	3.73	5.90
8	2/21/80	13	35	0.165	1.2233	2.956	4.15	6.33
8	2/21/80	13	44	0.146	1.0115	2.444	4.56	6.73
8	2/21/80	13	50	0.137	0.9146	2.210	4.79	6.96
8	2/21/80	14	14	0.122	0.7532	1.820	5.60	7.77
8	2/21/80	14	38	0.113	0.6708	1.621	6.28	8.46
8	2/21/80	15	2	0.107	0.6159	1.488	6.91	9.08
8	2/21/80	15	20	0.098	0.5335	1.289	7.32	9.50
8	2/21/80	16	26	0.085	0.4338	1.048	8.61	10.78
8	2/21/80	17	8	0.076	0.3667	0.886	9.28	11.46
8	2/21/80	17	42	0.064	0.2772	0.670	9.73	11.90
8	2/22/80	0	25	0.021	0.0614	0.148	12.47	14.65
8	2/22/80	3	12	0.018	0.0527	0.127	12.86	15.03
8	2/22/80	5	22	0.015	0.0439	0.106	13.11	15.28
8	2/22/80	7	18	0.012	0.0351	0.085	13.29	15.47
8	2/22/80	9	55	0.012	0.0351	0.085	13.52	15.69
8	2/22/80	11	7	0.015	0.0439	0.106	13.63	15.80
8	2/22/80	11	41	0.018	0.0527	0.127	13.70	15.87
8	2/22/80	12	37	0.027	0.0790	0.191	13.85	16.02
8	2/22/80	13	8	0.030	0.0878	0.212	13.95	16.12
8	2/22/80	14	30	0.034	0.1045	0.252	14.27	16.44
8	2/22/80	15	48	0.030	0.0878	0.212	14.57	16.74
8	2/22/80	16	36	0.027	0.0790	0.191	14.73	16.90
8	2/22/80	17	21	0.024	0.0702	0.170	14.87	17.04
8	2/22/80	18	4	0.021	0.0614	0.148	14.98	17.15
8	2/22/80	19	4	0.018	0.0527	0.127	15.12	17.29
8	2/22/80	19	59	0.015	0.0439	0.106	15.22	17.40
8	2/23/80	12	35	0.006	0.0176	0.042	16.46	18.63
8	2/24/80	12	0	0.0	0.0	0.0	16.95	19.13
8	3/ 9/80	14	30	0.0	0.0	0.0	0.0	19.13
8	3/ 9/80	16	12	0.030	0.0878	0.212	0.18	19.31
8	3/ 9/80	16	20	0.030	0.0878	0.212	0.21	19.33
8	3/ 9/80	16	28	0.034	0.1045	0.252	0.24	19.37
8	3/ 9/80	16	37	0.040	0.1379	0.333	0.28	19.41
8	3/ 9/80	17	34	0.040	0.1379	0.333	0.60	19.73
8	3/ 9/80	17	55	0.037	0.1212	0.293	0.71	19.84
8	3/ 9/80	18	25	0.034	0.1045	0.252	0.85	19.97
8	3/ 9/80	19	19	0.034	0.1045	0.252	1.07	20.20
8	3/ 9/80	21	3	0.030	0.0878	0.212	1.48	20.60
8	3/10/80	2	0	0.018	0.0527	0.127	2.32	21.44
8	3/10/80	6	0	0.009	0.0263	0.064	2.70	21.82
8	3/10/80	10	0	0.0	0.0	0.0	2.82	21.95
8	3/14/80	13	30	0.0	0.0	0.0	0.0	21.95
8	3/14/80	14	27	0.003	0.0088	0.021	0.01	21.96
8	3/14/80	14	33	0.012	0.0351	0.085	0.02	21.97
8	3/14/80	14	39	0.015	0.0439	0.106	0.02	21.98
8	3/14/80	14	43	0.018	0.0527	0.127	0.03	21.98
8	3/14/80	14	48	0.024	0.0702	0.170	0.05	22.00
8	3/14/80	14	52	0.030	0.0878	0.212	0.06	22.01
8	3/14/80	15	7	0.037	0.1212	0.293	0.12	22.07
8	3/14/80	15	12	0.037	0.1212	0.293	0.15	22.10
8	3/14/80	15	22	0.043	0.1546	0.374	0.20	22.15
8	3/14/80	15	30	0.040	0.1379	0.333	0.25	22.20
8	3/14/80	15	34	0.043	0.1546	0.374	0.27	22.22
8	3/14/80	15	41	0.049	0.1880	0.454	0.32	22.27
8	3/14/80	15	56	0.052	0.2047	0.495	0.44	22.39
8	3/14/80	16	19	0.049	0.1880	0.454	0.62	22.57
8	3/14/80	16	34	0.052	0.2047	0.495	0.74	22.69
8	3/14/80	16	50	0.049	0.1880	0.454	0.87	22.82
8	3/14/80	17	4	0.046	0.1713	0.414	0.97	22.92
8	3/14/80	17	22	0.043	0.1546	0.374	1.08	23.04
8	3/14/80	17	42	0.040	0.1379	0.333	1.20	23.15
8	3/14/80	17	56	0.037	0.1212	0.293	1.28	23.23
8	3/14/80	18	8	0.034	0.1045	0.252	1.33	23.28
8	3/14/80	18	20	0.030	0.0878	0.212	1.38	23.33
8	3/14/80	18	36	0.027	0.0790	0.191	1.43	23.38
8	3/14/80	19	2	0.024	0.0702	0.170	1.51	23.46
8	3/14/80	19	50	0.021	0.0614	0.148	1.64	23.59
8	3/14/80	22	46	0.021	0.0614	0.148	2.07	24.02
8	3/15/80	12	0	0.061	0.2549	0.616	7.13	29.08
8	3/15/80	14	0	0.131	0.8501	2.054	9.80	31.75

TABLE D1-10. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	3/15/80	14	40	0.119	0.7258	1.754	11.07	33.02
8	3/15/80	15	22	0.113	0.6708	1.621	12.25	34.20
8	3/15/80	15	34	0.107	0.6159	1.488	13.08	35.03
8	3/15/80	16	18	0.101	0.5610	1.355	13.65	35.60
8	3/15/80	16	45	0.098	0.5335	1.289	14.24	36.19
8	3/15/80	16	58	0.091	0.4786	1.156	14.51	36.46
8	3/15/80	17	17	0.085	0.4338	1.048	14.85	36.80
8	3/15/80	17	34	0.079	0.3891	0.940	15.14	37.09
8	3/15/80	17	55	0.073	0.3443	0.832	15.45	37.40
8	3/15/80	18	4	0.067	0.2996	0.724	15.56	37.51
8	3/15/80	18	17	0.061	0.2549	0.616	15.71	37.66
8	3/15/80	18	30	0.055	0.2214	0.535	15.83	37.78
8	3/15/80	18	58	0.049	0.1880	0.454	16.06	38.01
8	3/15/80	19	16	0.043	0.1546	0.374	16.33	38.28
8	3/15/80	20	28	0.037	0.1212	0.293	16.61	38.56
8	3/15/80	21	45	0.030	0.0878	0.212	16.94	38.89
8	3/16/80	0	34	0.024	0.0702	0.170	17.48	39.43
8	3/16/80	1	58	0.021	0.0614	0.148	17.70	39.65
8	3/16/80	5	35	0.018	0.0527	0.127	18.20	40.15
8	3/16/80	7	47	0.015	0.0439	0.106	18.45	40.40
8	3/16/80	9	7	0.018	0.0527	0.127	18.61	40.56
8	3/16/80	9	40	0.021	0.0614	0.148	18.68	40.64
8	3/16/80	10	14	0.024	0.0702	0.170	18.78	40.73
8	3/16/80	11	41	0.030	0.0878	0.212	19.05	41.00
8	3/16/80	13	8	0.030	0.0878	0.212	19.36	41.31
8	3/16/80	14	43	0.027	0.0790	0.191	19.68	41.63
8	3/16/80	15	50	0.024	0.0702	0.170	19.88	41.83
8	3/16/80	16	32	0.021	0.0614	0.148	19.99	41.94
8	3/16/80	17	4	0.018	0.0527	0.127	20.06	42.01
8	3/16/80	17	36	0.015	0.0439	0.106	20.13	42.08
8	3/16/80	17	46	0.012	0.0351	0.085	20.14	42.09
8	3/16/80	17	50	0.009	0.0263	0.064	20.15	42.10
8	3/16/80	17	56	0.006	0.0176	0.042	20.15	42.10
8	3/17/80	10	0	0.0	0.0	0.0	20.49	42.44
8	3/18/80	12	50	0.0	0.0	0.0	0.0	42.44
8	3/18/80	12	57	0.006	0.0176	0.042	0.00	42.45
8	3/18/80	13	2	0.009	0.0263	0.064	0.01	42.45
8	3/18/80	13	10	0.012	0.0351	0.085	0.02	42.46
8	3/18/80	13	27	0.015	0.0439	0.106	0.04	42.49
8	3/18/80	14	25	0.018	0.0527	0.127	0.16	42.60
8	3/18/80	15	29	0.015	0.0439	0.106	0.28	42.72
8	3/18/80	15	44	0.012	0.0351	0.085	0.30	42.75
8	3/18/80	15	54	0.009	0.0263	0.064	0.32	42.76
8	3/18/80	16	1	0.006	0.0176	0.042	0.32	42.77
8	3/18/80	16	10	0.0	0.0	0.0	0.33	42.77
8	3/19/80	12	0	0.0	0.0	0.0	0.0	42.77
8	3/19/80	13	5	0.003	0.0088	0.021	0.01	42.78
8	3/19/80	17	0	0.0	0.0	0.0	0.05	42.82

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	4/ 3/80	3	45	0.0	0.0	0.0	0.05	42.82
8	4/ 3/80	4	20	0.006	0.0176	0.042	0.07	42.84
8	4/ 3/80	6	27	0.003	0.0088	0.021	0.13	42.90
8	4/ 3/80	7	50	0.0	0.0	0.0	0.15	42.92
8	4/ 3/80	12	15	0.0	0.0	0.0	0.15	42.92
8	4/ 3/80	12	40	0.006	0.0176	0.042	0.16	42.93
8	4/ 3/80	15	20	0.009	0.0263	0.064	0.30	43.07
8	4/ 3/80	17	3	0.006	0.0176	0.042	0.39	43.16
8	4/ 3/80	19	6	0.003	0.0088	0.021	0.45	43.22
8	4/ 3/80	21	10	0.0	0.0	0.0	0.48	43.25
8	5/29/80	7	46	0.0	0.0	0.0	0.0	43.25
8	5/29/80	7	48	0.037	0.1212	0.293	0.00	43.25
8	5/29/80	7	49	0.082	0.4114	0.994	0.02	43.26
8	5/29/80	7	50	0.113	0.6708	1.621	0.04	43.28
8	5/29/80	7	52	0.125	0.7855	1.898	0.10	43.34
8	5/29/80	8	2	0.113	0.6708	1.621	0.39	43.64
8	5/29/80	8	12	0.079	0.3891	0.940	0.60	43.85
8	5/29/80	8	17	0.061	0.2549	0.616	0.67	43.91
8	5/29/80	8	24	0.049	0.1880	0.454	0.73	43.98
8	5/29/80	8	28	0.055	0.2214	0.535	0.76	44.01
8	5/29/80	8	30	0.076	0.3667	0.886	0.79	44.03
8	5/29/80	8	32	0.192	1.5716	3.797	0.86	44.11
8	5/29/80	8	34	0.820	4.6921	11.337	1.12	44.36
8	5/29/80	8	36	1.448	7.9287	19.157	1.63	44.87
8	5/29/80	8	37	1.475	8.6763	20.963	1.96	45.21
8	5/29/80	8	38	1.484	8.9396	21.599	2.31	45.56
8	5/29/80	8	39	1.475	8.6763	20.963	2.67	45.91
8	5/29/80	8	40	1.466	8.4130	20.327	3.01	46.26
8	5/29/80	8	41	1.457	8.1666	19.731	3.35	46.59
8	5/29/80	8	42	1.423	7.3454	17.747	3.66	46.90
8	5/29/80	8	43	1.387	6.6828	16.146	3.94	47.19
8	5/29/80	8	44	1.344	6.1249	14.799	4.20	47.45
8	5/29/80	8	46	0.975	5.1253	12.383	4.65	47.90
8	5/29/80	8	48	0.610	4.1059	9.920	5.02	48.27
8	5/29/80	8	50	0.247	2.3673	5.720	5.28	48.53
8	5/29/80	8	52	0.216	1.9142	4.625	5.46	48.70
8	5/29/80	8	54	0.201	1.6990	4.105	5.60	48.85
8	5/29/80	9	0	0.168	1.2601	3.045	5.96	49.21
8	5/29/80	9	3	0.146	1.0115	2.444	6.10	49.34
8	5/29/80	9	8	0.125	0.7855	1.898	6.28	49.52
8	5/29/80	9	12	0.101	0.5610	1.355	6.39	49.63
8	5/29/80	9	18	0.079	0.3891	0.940	6.50	49.75
8	5/29/80	9	27	0.061	0.2549	0.616	6.62	49.86
8	5/29/80	9	30	0.055	0.2214	0.535	6.65	49.89
8	5/29/80	9	35	0.049	0.1880	0.454	6.69	49.93
8	5/29/80	9	44	0.043	0.1546	0.374	6.75	50.00
8	5/29/80	9	49	0.040	0.1379	0.333	6.78	50.03
8	5/29/80	9	59	0.037	0.1212	0.293	6.83	50.08
8	5/29/80	10	11	0.034	0.1045	0.252	6.89	50.13
8	5/29/80	10	26	0.030	0.0878	0.212	6.94	50.19

TABLE D1-10. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	5/29/80	10	46	0.027	0.0790	0.191	7.01	50.26
8	5/29/80	11	13	0.024	0.0702	0.170	7.09	50.34
8	5/29/80	11	30	0.021	0.0614	0.148	7.19	50.44
8	5/29/80	12	12	0.018	0.0527	0.127	7.24	50.49
8	5/29/80	12	33	0.018	0.0527	0.127	7.33	50.57
8	5/29/80	13	13	0.015	0.0439	0.106	7.37	50.61
8	5/29/80	13	45	0.012	0.0351	0.085	7.42	50.66
8	5/29/80	13	59	0.006	0.0176	0.042	7.43	50.68
8	5/29/80	14	4	0.0	0.0	0.0	7.43	50.68
8	5/30/80	1	33	0.0	0.0	0.0	0.0	50.68
8	5/30/80	1	35	0.015	0.0439	0.106	0.00	50.68
8	5/30/80	1	36	0.027	0.0790	0.191	0.00	50.68
8	5/30/80	1	37	0.046	0.1713	0.414	0.01	50.69
8	5/30/80	1	38	0.055	0.2214	0.535	0.02	50.70
8	5/30/80	1	42	0.055	0.2214	0.535	0.05	50.73
8	5/30/80	1	43	0.070	0.3220	0.778	0.06	50.74
8	5/30/80	1	44	0.101	0.5610	1.355	0.08	50.76
8	5/30/80	1	46	0.113	0.6708	1.621	0.13	50.81
8	5/30/80	1	52	0.098	0.5335	1.289	0.28	50.96
8	5/30/80	1	58	0.091	0.4786	1.156	0.40	51.08
8	5/30/80	2	5	0.076	0.3667	0.886	0.52	51.20
8	5/30/80	2	10	0.067	0.2996	0.724	0.59	51.27
8	5/30/80	2	13	0.061	0.2549	0.616	0.62	51.30
8	5/30/80	2	17	0.055	0.2214	0.535	0.66	51.34
8	5/30/80	2	22	0.049	0.1880	0.454	0.70	51.38
8	5/30/80	2	26	0.046	0.1713	0.414	0.73	51.41
8	5/30/80	2	32	0.043	0.1546	0.374	0.77	51.45
8	5/30/80	2	40	0.040	0.1379	0.333	0.81	51.49
8	5/30/80	2	48	0.037	0.1212	0.293	0.86	51.54
8	5/30/80	3	2	0.034	0.1045	0.252	0.92	51.60
8	5/30/80	3	27	0.030	0.0873	0.212	1.02	51.70
8	5/30/80	3	51	0.027	0.0790	0.191	1.10	51.78
8	5/30/80	4	29	0.024	0.0702	0.170	1.21	51.89
8	5/30/80	4	52	0.021	0.0614	0.148	1.27	51.95
8	5/30/80	5	12	0.018	0.0527	0.127	1.32	52.00
8	5/30/80	5	37	0.015	0.0439	0.106	1.37	52.05
8	5/30/80	6	4	0.012	0.0351	0.085	1.41	52.09
8	5/30/80	6	19	0.009	0.0263	0.064	1.43	52.11
8	5/30/80	6	25	0.006	0.0176	0.042	1.43	52.11
8	5/30/80	6	35	0.0	0.0	0.0	1.44	52.12
8	6/ 2/80	9	40	0.0	0.0	0.0	0.0	52.12
8	6/ 2/80	9	43	0.009	0.0263	0.064	0.00	52.12
8	6/ 2/80	9	45	0.015	0.0439	0.106	0.00	52.12
8	6/ 2/80	9	47	0.018	0.0527	0.127	0.01	52.12
8	6/ 2/80	9	56	0.021	0.0614	0.148	0.03	52.15
8	6/ 2/80	10	0	0.024	0.0702	0.170	0.04	52.16
8	6/ 2/80	10	8	0.027	0.0790	0.191	0.06	52.18
8	6/ 2/80	10	21	0.024	0.0702	0.170	0.10	52.22
8	6/ 2/80	10	33	0.021	0.0614	0.148	0.13	52.25
8	6/ 2/80	10	57	0.018	0.0527	0.127	0.19	52.31
8	6/ 2/80	11	16	0.015	0.0439	0.106	0.23	52.34
8	6/ 2/80	11	28	0.012	0.0351	0.085	0.25	52.36
8	6/ 2/80	11	36	0.009	0.0263	0.064	0.26	52.37
8	6/ 2/80	11	42	0.006	0.0176	0.042	0.26	52.38
8	6/ 2/80	11	48	0.003	0.0088	0.021	0.26	52.38
8	6/ 2/80	11	52	0.0	0.0	0.0	0.26	52.38
8	6/ 2/80	16	57	0.0	0.0	0.0	0.0	52.38
8	6/ 2/80	16	59	0.037	0.1212	0.293	0.00	52.39
8	6/ 2/80	17	0	0.061	0.2549	0.616	0.01	52.39
8	6/ 2/80	17	2	0.174	1.3337	3.222	0.08	52.46
8	6/ 2/80	17	3	0.192	1.5716	3.797	0.13	52.52
8	6/ 2/80	17	4	0.213	1.8689	4.515	0.20	52.59
8	6/ 2/80	17	8	1.305	5.9295	14.326	0.83	53.21
8	6/ 2/80	17	10	1.390	6.7281	16.256	1.34	53.72
8	6/ 2/80	17	12	1.408	7.0339	16.995	1.90	54.28
8	6/ 2/80	17	13	1.396	6.8187	16.475	2.18	54.56
8	6/ 2/80	17	14	1.381	6.5922	15.927	2.45	54.83
8	6/ 2/80	17	15	1.359	6.3090	15.243	2.70	55.09
8	6/ 2/80	17	16	1.332	6.0456	14.607	2.95	55.33
8	6/ 2/80	17	17	1.308	5.9380	14.347	3.19	55.58
8	6/ 2/80	17	18	1.256	5.8163	14.053	3.43	55.81
8	6/ 2/80	17	21	1.201	5.6860	13.738	4.13	56.51
8	6/ 2/80	17	24	1.234	5.7625	13.923	4.82	57.20
8	6/ 2/80	17	25	1.250	5.8050	14.025	5.05	57.43
8	6/ 2/80	17	26	1.265	5.8333	14.094	5.29	57.67
8	6/ 2/80	17	27	1.289	5.8871	14.224	5.52	57.90
8	6/ 2/80	17	28	1.308	5.9380	14.347	5.76	58.14
8	6/ 2/80	17	29	1.332	6.0456	14.607	6.00	58.38
8	6/ 2/80	17	30	1.356	6.2722	15.154	6.25	58.63
8	6/ 2/80	17	31	1.369	6.4194	15.510	6.50	58.88
8	6/ 2/80	17	32	1.381	6.5922	15.927	6.77	59.15
8	6/ 2/80	17	34	1.372	6.4562	15.599	7.29	59.67
8	6/ 2/80	17	35	1.359	6.3090	15.243	7.55	59.93
8	6/ 2/80	17	36	1.329	6.0315	14.573	7.80	60.18
8	6/ 2/80	17	37	1.262	5.8276	14.080	8.04	60.42
8	6/ 2/80	17	39	1.158	5.6067	13.546	8.50	60.88
8	6/ 2/80	17	40	1.109	5.4708	13.218	8.72	61.10
8	6/ 2/80	17	44	0.305	3.1432	7.594	9.41	61.79
8	6/ 2/80	17	46	0.265	2.6391	6.376	9.65	62.03
8	6/ 2/80	17	47	0.250	2.4126	5.829	9.75	62.13
8	6/ 2/80	17	49	0.229	2.0954	5.063	9.93	62.31
8	6/ 2/80	17	53	0.210	1.8264	4.413	10.24	62.63
8	6/ 2/80	17	58	0.189	1.5291	3.694	10.58	62.96
8	6/ 2/80	18	9	0.162	1.1865	2.867	11.18	63.56
8	6/ 2/80	18	20	0.158	1.1497	2.778	11.70	64.08
8	6/ 2/80	18	23	0.146	1.0115	2.444	11.83	64.21
8	6/ 2/80	18	26	0.134	0.8824	2.132	11.95	64.33
8	6/ 2/80	18	29	0.119	0.7258	1.754	12.04	64.42

TABLE D1-10. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	6/ 2/80	18	32	0.107	0.6159	1.488	12.12	64.91
8	6/ 2/80	18	36	0.094	0.5060	1.223	12.21	64.60
8	6/ 2/80	18	42	0.079	0.3891	0.940	12.32	64.70
8	6/ 2/80	18	51	0.061	0.2549	0.616	12.44	64.82
8	6/ 2/80	19	0	0.049	0.1880	0.454	12.52	64.90
8	6/ 2/80	19	5	0.043	0.1546	0.374	12.55	64.94
8	6/ 2/80	19	10	0.040	0.1379	0.333	12.58	64.96
8	6/ 2/80	19	16	0.037	0.1212	0.293	12.62	65.00
8	6/ 2/80	19	23	0.034	0.1045	0.252	12.65	65.03
8	6/ 2/80	19	34	0.030	0.0878	0.212	12.69	65.07
8	6/ 2/80	19	48	0.027	0.0790	0.191	12.74	65.12
8	6/ 2/80	20	6	0.024	0.0702	0.170	12.79	65.17
8	6/ 2/80	20	25	0.021	0.0614	0.148	12.84	65.22
8	6/ 2/80	20	36	0.018	0.0527	0.127	12.91	65.29
8	6/ 2/80	21	54	0.015	0.0439	0.106	13.03	65.41
8	6/ 2/80	22	32	0.012	0.0351	0.085	13.09	65.47
8	6/ 2/80	22	57	0.009	0.0263	0.064	13.12	65.50
8	6/ 2/80	23	35	0.006	0.0176	0.042	13.15	65.53
8	6/ 2/80	23	43	0.003	0.0088	0.021	13.15	65.53
8	6/ 2/80	23	58	0.0	0.0	0.0	13.16	65.54
8	6/ 6/80	19	0	0.0	0.0	0.0	0.0	65.54
8	6/ 6/80	19	2	0.009	0.0263	0.064	0.00	65.54
8	6/ 6/80	19	5	0.015	0.0439	0.106	0.01	65.54
8	6/ 6/80	19	10	0.018	0.0527	0.127	0.02	65.55
8	6/ 6/80	19	12	0.034	0.1045	0.252	0.02	65.56
8	6/ 6/80	19	14	0.049	0.1880	0.454	0.03	65.57
8	6/ 6/80	19	17	0.055	0.2214	0.535	0.06	65.60
8	6/ 6/80	19	20	0.049	0.1880	0.454	0.08	65.62
8	6/ 6/80	19	24	0.040	0.1379	0.333	0.11	65.65
8	6/ 6/80	19	28	0.040	0.1379	0.333	0.13	65.67
8	6/ 6/80	19	31	0.043	0.1546	0.374	0.15	65.69
8	6/ 6/80	19	38	0.037	0.1212	0.293	0.19	65.73
8	6/ 6/80	19	46	0.027	0.0790	0.191	0.22	65.76
8	6/ 6/80	19	50	0.024	0.0702	0.170	0.23	65.77
8	6/ 6/80	20	0	0.018	0.0527	0.127	0.26	65.79
8	6/ 6/80	20	6	0.015	0.0439	0.106	0.27	65.81
8	6/ 6/80	20	13	0.012	0.0351	0.085	0.28	65.82
8	6/ 6/80	20	22	0.009	0.0263	0.064	0.29	65.83
8	6/ 6/80	20	31	0.006	0.0176	0.042	0.30	65.84
8	6/ 6/80	20	40	0.003	0.0088	0.021	0.30	65.84
8	6/ 6/80	21	0	0.0	0.0	0.0	0.31	65.84
8	6/ 7/80	5	4	0.0	0.0	0.0	0.0	65.84
8	6/ 7/80	5	8	0.006	0.0176	0.042	0.00	65.85
8	6/ 7/80	5	10	0.024	0.0702	0.170	0.00	65.85
8	6/ 7/80	5	11	0.040	0.1379	0.333	0.01	65.85
8	6/ 7/80	5	12	0.049	0.1880	0.454	0.02	65.86
8	6/ 7/80	5	13	0.055	0.2214	0.535	0.02	65.87
8	6/ 7/80	5	14	0.070	0.3220	0.778	0.03	65.88
8	6/ 7/80	5	15	0.113	0.6708	1.621	0.05	65.90
8	6/ 7/80	5	16	0.146	1.0115	2.444	0.09	65.93
8	6/ 7/80	5	17	0.162	1.1865	2.867	0.13	65.98
8	6/ 7/80	5	19	0.180	1.4073	3.400	0.24	66.08
8	6/ 7/80	5	21	0.165	1.2233	2.956	0.34	66.19
8	6/ 7/80	5	24	0.149	1.0438	2.522	0.48	66.32
8	6/ 7/80	5	27	0.131	0.8501	2.054	0.59	66.44
8	6/ 7/80	5	30	0.113	0.6708	1.621	0.69	66.53
8	6/ 7/80	5	33	0.098	0.5335	1.289	0.76	66.60
8	6/ 7/80	5	39	0.067	0.2996	0.724	0.86	66.70
8	6/ 7/80	5	43	0.058	0.2381	0.575	0.90	66.75
8	6/ 7/80	5	48	0.052	0.2047	0.495	0.95	66.79
8	6/ 7/80	5	54	0.043	0.1546	0.374	0.99	66.84
8	6/ 7/80	6	4	0.030	0.0878	0.212	1.04	66.88
8	6/ 7/80	6	14	0.024	0.0702	0.170	1.07	66.92
8	6/ 7/80	6	22	0.021	0.0614	0.148	1.09	66.94
8	6/ 7/80	6	29	0.018	0.0527	0.127	1.11	66.95
8	6/ 7/80	6	39	0.015	0.0439	0.106	1.13	66.97
8	6/ 7/80	6	49	0.012	0.0351	0.085	1.14	66.99
8	6/ 7/80	7	5	0.009	0.0263	0.064	1.16	67.01
8	6/ 7/80	7	27	0.006	0.0176	0.042	1.18	67.03
8	6/ 7/80	7	50	0.003	0.0088	0.021	1.20	67.04
8	6/ 7/80	8	2	0.0	0.0	0.0	1.20	67.04
8	6/13/80	21	44	0.0	0.0	0.0	0.0	67.04
8	6/13/80	21	49	0.003	0.0088	0.021	0.00	67.04
8	6/13/80	21	50	0.012	0.0351	0.085	0.00	67.04
8	6/13/80	21	51	0.030	0.0878	0.212	0.00	67.05
8	6/13/80	21	52	0.049	0.1880	0.454	0.01	67.05
8	6/13/80	21	53	0.061	0.2549	0.616	0.02	67.06
8	6/13/80	21	54	0.070	0.3220	0.778	0.03	67.07
8	6/13/80	21	57	0.076	0.3667	0.886	0.07	67.11
8	6/13/80	22	1	0.073	0.3443	0.832	0.13	67.17
8	6/13/80	22	4	0.067	0.2996	0.724	0.17	67.21
8	6/13/80	22	8	0.055	0.2214	0.535	0.21	67.25
8	6/13/80	22	13	0.043	0.1546	0.374	0.25	67.29
8	6/13/80	22	16	0.037	0.1212	0.293	0.26	67.31
8	6/13/80	22	19	0.030	0.0878	0.212	0.28	67.32
8	6/13/80	22	24	0.024	0.0702	0.170	0.29	67.34
8	6/13/80	22	32	0.018	0.0527	0.127	0.31	67.35
8	6/13/80	22	42	0.018	0.0527	0.127	0.33	67.38
8	6/13/80	23	12	0.009	0.0263	0.064	0.38	67.42
8	6/13/80	23	13	0.006	0.0176	0.042	0.38	67.42
8	6/13/80	23	59	0.003	0.0088	0.021	0.41	67.45
8	6/13/80	24	0	0.0	0.0	0.0	0.41	67.45
8	6/15/80	3	25	0.0	0.0	0.0	0.0	67.45
8	6/15/80	3	26	0.012	0.0351	0.085	0.00	67.45
8	6/15/80	3	28	0.018	0.0527	0.127	0.00	67.45
8	6/15/80	3	32	0.030	0.0878	0.212	0.02	67.46

TABLE D1-10. CONTINUED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	6/15/80	3	34	0.034	0.1045	0.252	0.02	67.47
8	6/15/80	3	35	0.037	0.1212	0.293	0.03	67.48
8	6/15/80	3	36	0.091	0.4786	1.156	0.04	67.49
8	6/15/80	3	38	0.158	1.1497	2.778	0.11	67.55
8	6/15/80	3	43	0.165	1.2233	2.956	0.34	67.79
8	6/15/80	3	47	0.162	1.1865	2.867	0.54	67.99
8	6/15/80	3	50	0.146	1.0115	2.444	0.67	68.12
8	6/15/80	3	53	0.131	0.8501	2.054	0.78	68.23
8	6/15/90	4	6	0.116	0.6983	1.687	1.19	68.64
8	6/15/80	4	13	0.098	0.5335	1.289	1.36	68.81
8	6/15/80	4	21	0.076	0.3667	0.886	1.51	68.96
8	6/15/80	4	27	0.058	0.2381	0.575	1.58	69.03
8	6/15/80	4	32	0.049	0.1880	0.454	1.62	69.07
8	6/15/80	4	37	0.040	0.1379	0.333	1.66	69.11
8	6/15/80	4	42	0.034	0.1045	0.252	1.68	69.13
8	6/15/80	4	45	0.030	0.0878	0.212	1.69	69.14
8	6/15/80	4	56	0.024	0.0702	0.170	1.73	69.18
8	6/15/80	5	2	0.021	0.0614	0.148	1.74	69.19
8	6/15/80	5	9	0.018	0.0527	0.127	1.76	69.21
8	6/15/80	5	19	0.015	0.0439	0.106	1.78	69.23
8	6/15/80	5	31	0.012	0.0351	0.085	1.80	69.25
8	6/15/80	5	44	0.009	0.0263	0.064	1.81	69.26
8	6/15/80	6	1	0.006	0.0176	0.042	1.83	69.28
8	6/15/90	6	25	0.003	0.0088	0.021	1.84	69.29
8	6/15/80	6	57	0.0	0.0	0.0	1.85	69.30
8	7/16/80	1	44	0.0	0.0	0.0	0.0	69.30
8	7/16/80	1	51	0.003	0.0088	0.021	0.00	69.30
8	7/16/80	1	56	0.006	0.0176	0.042	0.00	69.30
8	7/16/80	2	4	0.006	0.0176	0.042	0.01	69.31
8	7/16/80	2	6	0.0	0.0	0.0	0.01	69.31
8	7/16/80	2	9	0.006	0.0176	0.042	0.01	69.31
8	7/16/80	2	11	0.009	0.0263	0.064	0.01	69.31
8	7/16/80	2	15	0.012	0.0351	0.085	0.02	69.31
8	7/16/80	2	21	0.009	0.0263	0.064	0.03	69.32
8	7/16/80	2	26	0.006	0.0176	0.042	0.03	69.33
8	7/16/80	2	37	0.0	0.0	0.0	0.03	69.33
8	8/ 6/80	2	7	0.0	0.0	0.0	0.0	69.33
8	8/ 6/80	2	9	0.021	0.0614	0.148	0.00	69.33
8	8/ 6/80	2	10	0.034	0.1045	0.252	0.01	69.34
8	8/ 6/80	2	11	0.046	0.1713	0.414	0.01	69.34
8	8/ 6/80	2	13	0.049	0.1880	0.454	0.03	69.36
8	8/ 6/80	2	14	0.052	0.2047	0.495	0.03	69.36
8	8/ 6/80	2	15	0.079	0.3891	0.940	0.05	69.38
8	8/ 6/80	2	16	0.116	0.6983	1.687	0.07	69.40
8	8/ 6/80	2	17	0.137	0.9146	2.210	0.10	69.43
8	8/ 6/80	2	18	0.146	1.0115	2.444	0.14	69.47
8	8/ 6/80	2	20	0.149	1.0438	2.522	0.22	69.55
8	8/ 6/80	2	24	0.140	0.9469	2.288	0.38	69.71
8	8/ 6/80	2	29	0.128	0.8178	1.976	0.56	69.89
8	8/ 6/80	2	32	0.119	0.7258	1.754	0.65	69.98
8	8/ 6/80	2	37	0.110	0.6434	1.554	0.79	70.12
8	8/ 6/80	2	45	0.101	0.5610	1.355	0.98	70.31
8	8/ 6/80	2	50	0.091	0.4786	1.156	1.09	70.42
8	8/ 6/80	3	2	0.061	0.2549	0.616	1.27	70.60
8	8/ 6/80	3	6	0.052	0.2047	0.495	1.30	70.63
8	8/ 6/80	3	10	0.043	0.1546	0.374	1.33	70.66
8	8/ 6/80	3	14	0.037	0.1212	0.293	1.35	70.68
8	8/ 6/80	3	22	0.030	0.0878	0.212	1.39	70.72
8	8/ 6/80	3	32	0.024	0.0702	0.170	1.42	70.75
8	8/ 6/80	3	48	0.018	0.0527	0.127	1.46	70.79
8	8/ 6/80	4	8	0.012	0.0351	0.085	1.50	70.82
8	8/ 6/80	4	30	0.006	0.0176	0.042	1.52	70.85
8	8/ 6/80	4	44	0.003	0.0088	0.021	1.53	70.86
8	8/ 6/80	5	4	0.0	0.0	0.0	1.53	70.86
8	8/10/80	6	6	0.0	0.0	0.0	0.0	70.86
8	8/10/80	6	12	0.003	0.0088	0.021	0.00	70.86
8	8/10/80	6	23	0.006	0.0176	0.042	0.01	70.87
8	8/10/80	6	44	0.006	0.0176	0.042	0.02	70.88
8	8/10/80	6	57	0.003	0.0088	0.021	0.03	70.89
8	8/10/80	7	14	0.0	0.0	0.0	0.03	70.89
8	8/11/80	4	45	0.0	0.0	0.0	0.0	70.89
8	8/11/80	5	0	0.101	0.5610	1.355	0.17	71.06
8	8/11/80	5	15	0.128	0.8178	1.976	0.59	71.48
8	8/11/80	5	30	0.101	0.5610	1.355	1.00	71.89
8	8/11/80	7	20	0.0	0.0	0.0	2.24	73.14
8	8/16/80	10	13	0.0	0.0	0.0	0.0	73.14
8	8/16/80	10	22	0.009	0.0263	0.064	0.00	73.14
8	8/16/80	10	31	0.012	0.0351	0.085	0.02	73.15
8	8/16/80	10	36	0.015	0.0439	0.106	0.02	73.16
8	8/16/80	10	40	0.021	0.0614	0.148	0.03	73.17
8	8/16/80	10	48	0.030	0.0878	0.212	0.06	73.19
8	8/16/80	10	55	0.037	0.1212	0.293	0.09	73.22
8	8/16/80	11	1	0.043	0.1546	0.374	0.12	73.25
8	8/16/80	11	7	0.055	0.2214	0.535	0.16	73.30
8	8/16/80	11	13	0.061	0.2549	0.616	0.22	73.36
8	8/16/80	11	19	0.064	0.2772	0.670	0.29	73.42
8	8/16/80	11	30	0.061	0.2549	0.616	0.40	73.54
8	8/16/80	11	37	0.055	0.2214	0.535	0.47	73.61
8	8/16/80	11	43	0.046	0.1713	0.414	0.52	73.65
8	8/16/80	12	2	0.037	0.1212	0.293	0.63	73.77
8	8/16/80	12	13	0.030	0.0878	0.212	0.68	73.81
8	8/16/80	12	27	0.024	0.0702	0.170	0.72	73.86
8	8/16/80	12	40	0.018	0.0527	0.127	0.75	73.89
8	8/16/80	12	50	0.015	0.0439	0.106	0.77	73.91

TABLE D1-10. CONCLUDED

SITE	DATE	HOUR	MIN	STAGE M	RUNOFF RATE CMS	RUNOFF INTENSITY MMPH	STORM RUNOFF MM	ANNUAL RUNOFF MM
8	8/16/80	12	59	0.012	0.0351	0.085	0.79	73.92
8	8/16/80	13	13	0.009	0.0263	0.064	0.80	73.94
8	8/16/80	13	28	0.006	0.0176	0.042	0.82	73.95
8	8/16/80	13	34	0.006	0.0176	0.042	0.82	73.96
8	8/16/80	13	50	0.009	0.0263	0.064	0.84	73.97
8	8/16/80	14	5	0.009	0.0263	0.064	0.85	73.99
8	8/16/80	14	16	0.006	0.0176	0.042	0.86	74.00
8	8/16/80	14	24	0.003	0.0088	0.021	0.87	74.00
8	8/16/80	14	30	0.0	0.0	0.0	0.87	74.00

TABLE D2-1. AVERAGE DAILY DISCHARGE AT SITE 4 FOR 1979, m^3/s

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.08	0.12	0.13	1.16	0.82	0.34	0.45	0.23	0.17	0.07	0.31	0.18
2	0.11	0.12	0.13	1.05	1.30	0.34	0.42	0.22	0.16	0.07	0.27	0.19
3	0.14	0.12	0.17	1.02	1.73	0.34	10.73	0.20	0.14	0.07	0.25	0.20
4	0.18	0.11	1.13	1.02	1.30	0.45	1.76	0.19	0.14	0.07	0.24	0.19
5	0.16	0.10	6.06	1.02	1.19	0.42	0.88	0.17	0.13	0.07	0.24	0.20
6	0.14	0.12	2.97	1.76	1.08	0.34	0.65	0.16	0.14	0.07	0.31	0.18
7	0.15	0.12	1.59	0.74	0.99	0.34	0.51	0.15	0.12	0.07	0.31	0.18
8	0.16	0.11	0.85	0.71	0.99	0.34	0.40	0.16	0.11	0.06	0.28	0.15
9	0.13	0.10	0.65	0.59	0.91	0.42	0.34	0.22	0.11	0.06	0.26	0.18
10	0.14	0.11	0.48	0.57	0.74	0.45	0.27	0.18	0.10	0.06	0.23	0.18
11	0.15	0.11	0.51	0.54	0.68	0.40	0.22	0.16	0.10	0.07	0.22	0.17
12	0.16	0.11	0.54	0.68	0.65	3.68	0.19	0.15	0.09	0.07	0.22	0.14
13	0.15	0.11	2.27	0.62	0.62	3.79	0.51	0.14	0.10	0.06	0.21	0.15
14	0.11	0.12	5.95	0.57	0.57	0.88	10.62	0.14	0.09	0.06	0.20	0.14
15	0.12	0.11	4.16	0.54	0.57	0.68	0.99	0.13	0.09	0.07	0.20	0.16
16	0.12	0.10	4.11	0.51	0.54	0.54	0.74	0.13	0.08	0.06	0.20	0.10
17	0.14	0.10	8.04	0.48	0.54	0.51	0.62	0.12	0.08	0.11	0.20	0.11
18	0.14	0.10	29.11	0.45	0.51	0.79	0.54	0.11	0.08	0.07	0.19	0.13
19	0.14	0.11	9.80	0.71	0.54	0.51	0.48	0.74	0.08	0.15	0.18	0.16
20	0.14	0.11	1.61	4.59	0.48	0.99	0.45	1.47	0.08	0.10	0.18	0.15
21	0.13	0.11	1.05	2.44	0.45	0.54	0.40	2.27	0.07	0.08	0.22	0.15
22	0.13	0.11	0.93	1.44	0.45	0.45	0.37	1.93	0.07	1.98	0.37	0.16
23	0.13	0.12	2.63	1.16	0.42	0.40	0.34	0.71	0.07	1.13	0.31	0.20
24	0.13	0.11	0.76	1.02	0.42	0.34	0.31	0.45	0.08	0.74	0.27	0.16
25	0.13	0.11	1.19	1.10	0.40	0.34	0.31	0.34	0.08	0.54	0.25	0.14
26	0.13	0.11	0.88	1.39	0.42	0.31	0.28	0.31	0.07	0.42	0.25	0.14
27	0.13	0.12	0.71	1.13	0.40	4.08	0.27	0.28	0.07	0.37	0.22	0.14
28	0.12	0.12	1.53	0.99	0.37	0.76	0.26	0.24	0.07	0.31	0.21	0.13
29	0.12		8.41	0.96	0.40	0.62	0.25	0.22	0.07	0.27	0.20	0.14
30	0.12		5.10	0.85	0.37	0.54	0.26	0.19	0.07	0.25	0.22	0.14
31	0.12		1.59		0.37		0.24	0.18		0.28		0.14
Tot.	4.13	3.12	105.04	31.80	21.21	25.03	35.06	12.31	2.87	7.87	7.21	4.89
Mean	0.13	0.11	3.40	1.06	0.69	0.84	1.13	0.40	0.10	0.25	0.24	0.16
Max.	0.18	0.12	29.11	4.59	1.73	4.08	10.73	2.27	0.17	1.98	0.37	0.20
Min.	0.08	0.10	0.13	0.45	0.37	0.34	0.19	0.11	0.07	0.06	0.18	0.10
mm	7.11	5.33	179.58	54.36	36.32	42.67	59.94	21.08	4.83	13.46	12.45	8.38

1979 Total: 260.55 Mean: 0.71 Max.: 29.11 Min.: 0.06 mm: 445.52

TABLE D2-2. AVERAGE DAILY DISCHARGE AT SITE 5 FOR 1979, m^3/s

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.07	0.07	0.07	0.59	0.45	0.22	0.31	0.17	0.11	0.06	0.21	0.14
2	0.10	0.07	0.06	0.54	0.76	0.22	0.45	0.16	0.10	0.04	0.19	0.14
3	0.12	0.07	0.40	0.71	0.96	0.21	8.41	0.15	0.10	0.04	0.17	0.15
4	0.13	0.07	1.25	0.71	0.71	0.23	1.22	0.13	0.09	0.03	0.16	0.14
5	0.11	0.06	1.08	0.68	0.59	0.23	0.65	0.12	0.08	0.03	0.17	0.15
6	0.10	0.07	1.30	0.48	0.57	0.21	0.51	0.12	0.08	0.03	0.22	0.14
7	0.10	0.07	0.88	0.45	0.51	0.21	0.42	0.11	0.07	0.03	0.21	0.13
8	0.11	0.07	0.51	0.42	0.51	0.20	0.40	0.10	0.07	0.03	0.20	0.12
9	0.09	0.06	0.37	0.37	0.48	0.27	0.34	0.13	0.07	0.03	0.19	0.12
10	0.10	0.07	0.31	0.34	0.45	0.31	0.31	0.13	0.06	0.03	0.16	0.13
11	0.09	0.07	0.27	0.34	0.42	0.27	0.31	0.11	0.06	0.04	0.16	0.11
12	0.09	0.07	0.48	0.42	0.40	3.62	0.28	0.10	0.06	0.03	0.16	0.11
13	0.08	0.07	2.52	0.37	0.40	1.90	0.40	0.10	0.05	0.03	0.15	0.11
14	0.07	0.07	4.11	0.34	0.37	0.65	8.27	0.10	0.05	0.04	0.15	0.11
15	0.07	0.07	4.08	0.31	0.34	0.54	0.71	0.09	0.05	0.04	0.15	0.12
16	0.08	0.05	4.08	0.31	0.34	0.45	0.48	0.09	0.05	0.04	0.14	0.07
17	0.09	0.05	4.70	0.31	0.34	0.40	0.40	0.08	0.04	0.03	0.14	0.14
18	0.08	0.06	17.50	0.28	0.34	0.59	0.37	0.08	0.04	0.03	0.14	0.12
19	0.08	0.06	5.61	0.40	0.34	0.40	0.31	0.54	0.04	0.11	0.13	0.11
20	0.09	0.06	1.02	2.75	0.31	0.74	0.31	0.88	0.04	0.07	0.13	0.10
21	0.09	0.06	0.65	1.59	0.31	0.37	0.27	2.12	0.03	0.05	0.17	0.11
22	0.08	0.06	0.57	0.99	0.28	0.34	0.25	1.05	0.03	1.56	0.26	0.11
23	0.08	0.06	1.76	0.85	0.28	0.31	0.24	0.42	0.03	0.85	0.22	0.12
24	0.08	0.06	0.37	0.74	0.27	0.28	0.24	0.28	0.05	0.51	0.20	0.10
25	0.08	0.05	0.68	0.82	0.26	0.27	0.22	0.22	0.05	0.37	0.20	0.10
26	0.08	0.05	0.34	0.93	0.27	0.27	0.21	0.20	0.04	0.31	0.19	0.10
27	0.08	0.06	0.34	0.76	0.25	3.40	0.20	0.18	0.04	0.26	0.17	0.09
28	0.07	0.06	1.16	0.59	0.25	0.57	0.20	0.16	0.03	0.21	0.17	0.09
29	0.07		8.10	0.57	0.25	0.42	0.19	0.15	0.03	0.19	0.16	0.10
30	0.08		2.86	0.48	0.23	0.37	0.20	0.13	0.04	0.18	0.16	0.10
31	0.08		0.91		0.22		0.18	0.12		0.21		0.10
Tot.	2.71	1.74	68.29	19.45	12.48	18.46	27.26	8.53	1.69	5.50	5.21	3.58
Mean	0.09	0.06	2.20	0.65	0.40	0.61	0.88	0.28	0.06	0.18	0.17	0.12
Max.	0.13	0.07	17.50	2.75	0.96	3.62	8.41	2.12	0.11	1.56	0.26	0.15
Min.	0.07	0.05	0.06	0.28	0.22	0.20	0.18	0.08	0.03	0.03	0.13	0.07
mm	6.60	4.32	164.85	46.99	30.23	44.70	65.79	20.57	4.06	13.21	12.70	8.64

1979 Total: 174.91 Mean: 0.48 Max.: 17.50 Min.: 0.03 mm: 422.66

TABLE D2-3. AVERAGE DAILY DISCHARGE AT SITE 6 FOR 1979, m^3/s

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	<0.01	<0.01	<0.01	0.07	0.06	0.03	0.06	0.02	0.02	<0.01	<0.01	<0.01
2	0.01	<0.01	<0.01	0.07	0.12	0.03	0.05	0.02	0.02	<0.01	<0.01	<0.01
3	0.01	<0.01	0.06	0.08	0.09	0.02	0.88	0.01	0.02	<0.01	<0.01	<0.01
4	0.01	<0.01	0.23	0.09	0.07	0.07	0.07	0.01	0.02	<0.01	<0.01	<0.01
5	0.01	<0.01	0.09	0.08	0.06	0.05	0.06	0.01	0.02	<0.01	<0.01	0.01
6	<0.01	<0.01	0.03	0.07	0.06	0.03	0.05	0.01	0.02	<0.01	0.01	<0.01
7	0.01	<0.01	0.03	0.07	0.06	0.03	0.05	0.01	0.02	<0.01	0.01	<0.01
8	0.01	<0.01	0.02	0.06	0.06	0.03	0.04	0.01	0.01	<0.01	<0.01	<0.01
9	<0.01	<0.01	0.02	0.05	0.06	0.04	0.04	0.02	0.01	<0.01	<0.01	<0.01
10	<0.01	<0.01	0.02	0.05	0.06	0.04	0.03	0.01	0.01	<0.01	<0.01	<0.01
11	<0.01	<0.01	0.02	0.05	0.05	0.03	0.03	0.01	0.01	<0.01	<0.01	<0.01
12	<0.01	<0.01	0.02	0.06	0.05	0.54	0.03	0.01	0.01	<0.01	<0.01	<0.01
13	<0.01	<0.01	0.08	0.05	0.05	0.05	0.03	0.01	0.01	<0.01	<0.01	<0.01
14	<0.01	<0.01	0.28	0.04	0.05	0.05	0.31	0.01	0.01	<0.01	<0.01	<0.01
15	<0.01	<0.01	0.07	0.04	0.04	0.05	0.09	0.01	<0.01	<0.01	<0.01	<0.01
16	<0.01	<0.01	0.31	0.04	0.04	0.05	0.06	0.01	<0.01	<0.01	<0.01	<0.01
17	<0.01	<0.01	0.31	0.04	0.04	0.05	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
18	<0.01	<0.01	0.71	0.04	0.04	0.05	0.04	<0.01	<0.01	<0.01	<0.01	<0.01
19	<0.01	<0.01	0.17	0.08	0.05	0.05	0.03	0.05	<0.01	<0.01	<0.01	<0.01
20	<0.01	<0.01	0.05	0.14	0.05	0.04	0.03	0.11	<0.01	<0.01	<0.01	<0.01
21	<0.01	<0.01	0.08	0.09	0.05	0.03	0.03	0.20	<0.01	<0.01	0.01	<0.01
22	<0.01	<0.01	0.08	0.09	0.04	0.03	0.02	0.08	<0.01	0.09	0.02	<0.01
23	<0.01	<0.01	0.15	0.07	0.04	0.02	0.02	0.06	<0.01	0.03	0.01	<0.01
24	<0.01	<0.01	0.16	0.07	0.05	0.02	0.02	0.05	<0.01	0.02	0.01	<0.01
25	<0.01	<0.01	0.09	0.09	0.05	0.02	0.02	0.05	<0.01	0.01	0.01	<0.01
26	<0.01	<0.01	0.06	0.08	0.05	0.02	0.02	0.05	<0.01	0.01	0.01	<0.01
27	<0.01	<0.01	0.06	0.07	0.03	0.28	0.02	0.04	<0.01	0.01	0.01	<0.01
28	<0.01	<0.01	0.07	0.07	0.03	0.06	0.02	0.03	<0.01	0.01	0.01	<0.01
29	<0.01		0.13	0.06	0.03	0.06	0.02	0.03	<0.01	0.01	<0.01	<0.01
30	<0.01		0.07	0.06	0.03	0.06	0.02	0.03	<0.01	<0.01	<0.01	<0.01
31	<0.01		0.07		0.03		0.02	0.02		0.01		<0.01
Tot.	0.28	0.18	3.56	2.01	1.55	1.94	2.24	1.03	0.31	0.26	0.28	0.25
Mean	0.01	0.01	0.12	0.07	0.05	0.06	0.07	0.03	0.01	0.01	0.01	0.01
Max.	0.01	0.01	0.71	0.14	0.12	0.54	0.88	0.20	0.02	0.09	0.02	0.01
Min.	0.01	0.01	0.01	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01
mm	6.86	4.57	89.15	50.55	38.86	48.51	56.13	25.91	7.62	6.60	7.11	6.35

1979 Total: 13.89 Mean: 0.04 Max.: 0.88 Min.: 0.01 mm: 348.23

TABLE D2-4. AVERAGE DAILY DISCHARGE AT SITE 4 FOR 1980, m^3/s

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.14	0.11	0.16	0.16	0.14	0.85	0.16	0.02	0.05	0.04	0.05	0.03
2	0.13	0.11	0.18	0.25	0.13	6.80	0.16	0.02	0.04	0.04	0.05	0.03
3	0.12	0.10	0.16	0.45	0.13	2.21	0.15	0.02	0.06	0.04	0.05	0.03
4	0.13	0.10	0.14	0.59	0.13	1.13	0.14	0.02	0.13	0.04	0.05	0.03
5	0.13	0.10	0.10	0.42	0.12	0.82	0.13	0.02	0.07	0.04	0.05	0.05
6	0.10	0.10	0.11	0.37	0.12	0.71	0.12	3.99	0.11	0.03	0.05	0.09
7	0.02	0.10	0.12	0.34	0.12	1.22	0.12	0.51	0.10	0.03	0.05	0.09
8	0.03	0.10	0.12	0.31	0.12	0.62	0.11	0.40	0.10	0.03	0.05	0.07
9	0.08	0.10	0.45	0.31	0.11	0.54	0.11	0.34	0.08	0.03	0.04	0.06
10	0.13	0.09	2.52	0.31	0.12	0.48	0.10	0.27	0.05	0.03	0.04	0.05
11	0.24	0.09	0.88	0.26	0.12	0.45	0.10	0.79	0.05	0.03	0.04	0.05
12	0.31	0.09	0.40	0.25	0.11	0.42	0.10	0.16	0.09	0.03	0.04	0.04
13	0.18	0.09	0.21	0.28	0.11	0.45	0.10	0.10	0.07	0.03	0.05	0.04
14	0.17	0.09	1.42	0.24	0.10	0.85	0.09	0.07	0.06	0.04	0.06	0.04
15	0.18	0.09	7.16	0.22	0.10	1.42	0.08	0.05	0.05	0.04	0.05	0.04
16	5.04	0.09	1.95	0.20	0.10	0.45	0.13	0.54	0.05	0.04	0.05	0.03
17	1.70	0.09	0.51	0.19	0.11	0.40	0.08	0.27	0.05	0.04	0.04	0.03
18	0.45	0.09	0.37	0.19	0.12	0.37	0.08	0.16	0.04	0.05	0.04	0.03
19	0.28	0.10	0.34	0.16	0.12	0.37	0.08	0.21	0.04	0.04	0.04	0.02
20	0.25	0.13	0.31	0.20	0.11	0.28	0.08	0.11	0.07	0.04	0.05	0.02
21	0.23	5.49	0.25	0.17	0.10	0.27	0.07	0.09	0.05	0.03	0.05	0.02
22	0.19	3.23	0.23	0.16	0.10	0.25	0.07	0.07	0.07	0.03	0.05	0.02
23	0.16	0.76	0.23	0.16	0.10	0.24	0.06	0.07	0.05	0.03	0.05	0.02
24	0.15	0.26	0.22	0.15	0.10	0.23	0.05	0.06	0.05	0.13	0.04	0.02
25	0.14	0.06	0.19	0.15	0.09	0.21	0.05	0.06	0.04	0.08	0.04	0.02
26	0.13	0.07	0.15	0.15	0.09	0.20	0.06	0.06	0.04	0.07	0.04	0.02
27	0.13	0.18	0.15	0.14	0.59	0.20	0.05	0.06	0.04	0.07	0.04	0.02
28	0.13	0.17	0.15	0.14	0.28	0.19	0.05	0.05	0.04	0.06	0.04	0.02
29	0.12	0.17	0.16	0.14	7.08	0.17	0.04	0.05	0.04	0.06	0.04	0.02
30	0.12		0.17	0.14	3.40	0.17	0.03	0.05	0.04	0.06	0.04	0.02
31	0.11		0.16		1.42		0.03	0.05		0.09		0.02
Tot.	11.43	12.36	19.67	7.23	15.68	22.97	2.78	8.76	1.83	1.44	1.37	1.13
Mean	0.37	0.42	0.63	0.24	0.51	0.76	0.09	0.28	0.06	0.05	0.05	0.04
Max.	5.04	5.49	7.16	0.59	7.08	6.80	0.16	3.99	0.13	0.13	0.06	0.09
Min.	0.02	0.06	0.10	0.14	0.09	0.17	0.03	0.02	0.04	0.03	0.04	0.02
mm	19.56	21.08	33.53	12.45	26.92	39.37	4.83	14.99	3.05	2.54	2.29	2.03

1980 Total: 106.65 Mean: 0.29 Max.: 7.16 Min.: 0.02 mm: 182.63

TABLE D2-5. AVERAGE DAILY DISCHARGE AT SITE 5 FOR 1980, m^3/s

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.*	Nov.*	Dec.*
1	0.10	0.08	0.11	0.12	0.09	0.59	0.16	0.02	0.02			
2	0.09	0.07	0.13	0.18	0.09	4.76	0.15	0.02	0.02			
3	0.08	0.07	0.11	0.31	0.09	1.42	0.15	0.02	0.04			
4	0.09	0.07	0.10	0.37	0.09	0.74	0.14	0.02	0.07			
5	0.09	0.07	0.07	0.27	0.08	0.57	0.14	0.02	0.04			
6	0.05	0.07	0.08	0.25	0.08	0.48	0.13	0.59	0.07			
7	0.01	0.07	0.08	0.24	0.08	0.85	0.12	0.03	0.06			
8	0.03	0.07	0.10	0.24	0.08	0.42	0.11	0.03	0.05			
9	0.05	0.07	1.19	0.23	0.08	0.37	0.11	0.03	0.04			
10	0.08	0.07	3.23	0.21	0.09	0.34	0.10	0.06	0.03			
11	0.17	0.06	1.44	0.20	0.08	0.31	0.10	0.51	0.02			
12	0.22	0.06	0.51	0.21	0.08	0.28	0.09	0.08	0.05			
13	0.12	0.06	0.14	0.18	0.08	0.31	0.08	0.05	0.03			
14	0.12	0.06	2.04	0.18	0.07	0.59	0.08	0.04	0.03			
15	0.13	0.06	5.64	0.16	0.07	1.10	0.08	0.03	0.03			
16	3.40	0.06	1.27	0.15	0.07	0.42	0.10	0.37	0.03			
17	0.91	0.06	0.26	0.13	0.08	0.37	0.07	0.20	0.02			
18	0.31	0.06	0.22	0.13	0.08	0.34	0.07	0.11	0.02			
19	0.20	0.07	0.21	0.28	0.08	0.31	0.07	0.14	0.02			
20	0.17	0.10	0.18	0.20	0.08	0.26	0.07	0.08	0.03			
21	0.16	5.38	0.14	0.12	0.07	0.24	0.06	0.06	0.02			
22	0.13	1.67	0.13	0.11	0.07	0.24	0.06	0.05	0.03			
23	0.11	0.40	0.13	0.11	0.07	0.23	0.06	0.04	0.02			
24	0.10	0.18	0.11	0.11	0.07	0.22	0.05	0.03	0.03			
25	0.10	0.04	0.10	0.11	0.06	0.21	0.04	0.03	0.03			
26	0.10	0.05	0.11	0.10	0.06	0.20	0.04	0.03	0.05			
27	0.09	0.13	0.10	0.10	0.40	0.20	0.04	0.03	0.04			
28	0.09	0.12	0.11	0.10	0.20	0.19	0.04	0.03	0.03			
29	0.09	0.12	0.12	0.10	4.87	0.17	0.03	0.03	0.03			
30	0.08		0.12	0.10	1.90	0.16	0.02	0.03	0.02			
31	0.08		0.11		0.82		0.02	0.03				
Tot.	7.55	9.40	18.41	5.29	10.23	16.91	2.59	2.82	1.02			
Mean	0.24	0.32	0.59	0.18	0.33	0.56	0.08	0.09	0.03			
Max.	3.40	5.38	5.64	0.37	4.87	4.76	0.16	0.59	0.07			
Min.	0.01	0.04	0.07	0.10	0.06	0.16	0.02	0.02	0.02			
mm	18.29	22.86	44.45	12.70	24.89	40.89	6.35	6.86	2.54			

1980† Total: 74.22 Mean: 0.27 Max.: 5.64 Min.: 0.01 mm: 179.83

*Measurements at this site were discontinued after September, 1980.

†Data are for January through September only.

TABLE D2-6. AVERAGE DAILY DISCHARGE AT SITE 6 FOR 1980, m^3/s

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.*	Nov.*	Dec.*
1	<0.01	<0.01	<0.01	0.01	<0.01	0.04	<0.01	<0.01	<0.01			
2	<0.01	<0.01	<0.01	0.01	<0.01	0.34	<0.01	<0.01	<0.01			
3	<0.01	<0.01	<0.01	0.04	<0.01	0.10	<0.01	<0.01	<0.01			
4	<0.01	<0.01	<0.01	0.03	<0.01	0.06	<0.01	<0.01	0.02			
5	<0.01	<0.01	<0.01	0.02	<0.01	0.04	<0.01	<0.01	<0.01			
6	<0.01	<0.01	<0.01	0.02	<0.01	0.04	<0.01	0.19	0.02			
7	<0.01	<0.01	<0.01	0.02	<0.01	0.06	<0.01	<0.01	<0.01			
8	<0.01	<0.01	<0.01	0.02	<0.01	0.03	<0.01	<0.01	<0.01			
9	<0.01	<0.01	0.12	0.02	<0.01	0.03	<0.01	<0.01	<0.01			
10	<0.01	<0.01	0.15	0.02	<0.01	0.02	<0.01	0.04	<0.01			
11	0.01	<0.01	0.05	0.02	<0.01	0.02	<0.01	0.08	<0.01			
12	0.02	<0.01	0.01	0.01	<0.01	0.02	<0.01	0.02	<0.01			
13	0.02	<0.01	<0.01	0.01	<0.01	0.02	<0.01	<0.01	<0.01			
14	<0.01	<0.01	0.09	0.01	<0.01	0.04	<0.01	<0.01	<0.01			
15	0.02	<0.01	0.10	0.01	<0.01	0.08	<0.01	<0.01	<0.01			
16	0.45	<0.01	0.06	0.01	<0.01	0.03	0.01	0.09	<0.01			
17	0.07	<0.01	0.05	0.01	<0.01	0.02	<0.01	0.04	<0.01			
18	0.02	<0.01	0.03	0.01	<0.01	0.03	<0.01	0.02	<0.01			
19	0.02	<0.01	0.03	0.01	<0.01	0.02	<0.01	0.03	<0.01			
20	0.02	0.02	0.02	<0.01	<0.01	0.02	<0.01	0.01	<0.01			
21	0.01	0.40	0.02	<0.01	<0.01	0.02	<0.01	<0.01	<0.01			
22	0.01	0.13	0.02	<0.01	<0.01	0.02	<0.01	<0.01	<0.01			
23	0.01	0.03	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01			
24	0.01	0.01	0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01			
25	0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01			
26	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01			
27	<0.01	<0.01	<0.01	<0.01	0.03	0.01	<0.01	<0.01	<0.01			
28	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	<0.01	<0.01			
29	<0.01	<0.01	<0.01	<0.01	0.34	<0.01	<0.01	<0.01	<0.01			
30	<0.01		<0.01	<0.01	0.14	<0.01	<0.01	<0.01	<0.01			
31	<0.01		<0.01		0.06		<0.01	<0.01				
Tot.	0.81	0.76	0.89	0.39	0.73	1.20	0.12	0.62	0.18			
Mean	0.03	0.03	0.03	0.01	0.02	0.04	0.01	0.02	0.01			
Max.	0.45	0.40	0.15	0.04	0.34	0.34	0.01	0.19	0.02			
Min.	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01			
mm	20.32	19.05	22.35	9.91	18.29	30.23	3.05	15.49	4.57			

1980† Total: 5.70 Mean: 0.02 Max.: 0.45 Min.: 0.01 mm: 143.26

*Measurements at this site were discontinued after September, 1980.

†Data are for January through September only.

APPENDIX E

SEDIMENTATION, PARTICLE SIZE, AND STREAM CROSS SECTION MEASUREMENTS

TABLE E1- 1. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1979 SITE 1

						EQUIVALENT SPHERICAL DIAMETER (MICRONS)											
						50	40	32	24	16	12	8	6	4	3	2	1
SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	PERCENT FINER THAN											
1	6/12/79	17	48	0.0101	63066	99	99	96	85	64	52	40	32	23	18	12	5
1	6/12/79	17	51	0.0403	23019	99	99	98	97	89	80	65	52	36	29	20	9
1	6/12/79	17	52	0.0504	26513	100	99	99	97	91	79	65	53	40	30	21	8
1	6/12/79	17	54	0.0705	21176	100	99	98	96	89	80	68	56	41	33	21	10
1	6/12/79	17	56	0.0907	22452	100	99	98	94	81	70	57	44	30	23	13	5
1	6/12/79	17	58	0.1215	25066	100	99	98	90	84	73	59	46	32	24	15	5
1	6/12/79	18	0	0.1026	21940	99	99	98	98	90	80	67	54	38	28	18	7
1	6/12/79	18	2	0.0728	20065	100	100	99	97	88	77	63	51	38	28	19	7
1	6/12/79	18	4	0.0648	17900	100	100	100	100	94	88	76	63	45	35	22	9
1	6/12/79	18	6	0.2061	61069	100	100	96	87	67	55	44	37	28	22	16	9
1	6/12/79	18	6	0.2061	75728	100	99	95	84	63	50	39	32	24	19	13	6
1	6/12/79	18	8	1.0336	73767	100	97	95	82	61	51	39	32	25	20	14	7
1	6/12/79	18	10	1.4611	89579	100	100	96	86	65	53	42	34	26	21	16	8
1	6/12/79	18	12	2.3560	76369	99	97	94	81	60	48	37	31	22	18	13	6
1	6/12/79	18	14	2.1861	72414	100	98	95	80	58	47	36	29	21	17	11	4
1	6/12/79	18	16	1.9963	68548	100	98	93	79	55	43	32	25	17	13	9	3
1	6/12/79	18	18	1.7755	53686	100	99	96	88	68	57	45	36	28	23	15	8
1	6/12/79	18	20	1.4855	49984	100	99	97	88	68	57	45	37	29	22	16	8
1	6/12/79	18	22	0.9565	42874	99	99	96	88	68	55	46	38	28	23	17	8
1	6/12/79	18	24	0.5308	42277	98	98	96	89	68	57	46	38	29	24	17	9
1	6/12/79	18	26	0.3193	43548	100	99	96	86	68	57	47	38	29	23	16	8
1	6/12/79	18	28	0.1812	36036	99	98	95	85	67	56	46	38	29	22	15	8
1	6/12/79	18	30	0.1026	29906	100	98	96	87	70	63	51	43	33	26	19	8
1	6/12/79	18	32	0.0629	25876	99	99	96	90	69	66	54	45	34	28	19	10
1	6/12/79	18	34	0.0389	22830	100	99	96	88	75	66	57	48	38	35	21	10
1	6/12/79	18	36	0.0245	18252	100	99	98	94	85	75	65	56	45	37	27	14
1	6/12/79	18	43	0.0062	8845	100	100	100	96	89	83	76	68	56	46	33	17
1	6/12/79	18	48	0.0020	5777	100	100	100	98	94	89	83	76	65	57	43	25
1	6/12/79	18	53	0.0005	4174												
1	6/12/79	19	1	0.0001	2858												
1	6/27/79	0	10	0.0	10917	100	99	97	87	62	49	35	27	18	13	7	1
1	6/27/79	0	13	0.0181	33043	100	100	97	87	62	48	37	27	18	13	6	0
1	6/27/79	0	15	0.0976	39440	100	98	93	74	41	30	21	15	7	3	0	0
1	6/27/79	0	17	0.8495	38699	99	98	93	70	34	24	17	11	4	1	0	0
1	6/27/79	0	19	0.8671	33193	100	100	96	84	58	45	32	22	13	7	0	0
1	6/27/79	0	21	0.6586	29443	100	99	96	85	62	51	39	29	20	13	7	0
1	6/27/79	0	23	0.4457	27626	100	98	97	86	62	49	37	29	18	12	6	0
1	6/27/79	0	25	0.3324	19886	100	99	97	88	69	57	44	34	23	16	8	0
1	6/27/79	0	27	0.2246	19692	100	99	98	87	63	51	39	32	22	16	10	1
1	6/27/79	0	29	0.1710	17924	100	99	97	89	72	61	49	40	29	22	13	3
1	6/27/79	0	31	0.1215	16071	100	100	98	91	72	61	47	38	26	19	8	0
1	6/27/79	0	33	0.1000	13324	100	99	97	89	69	59	48	38	28	20	11	1
1	6/27/79	0	35	0.0907	13960												
1	6/27/79	0	37	0.0837	13111												
1	6/27/79	0	39	0.0803	12866	100	99	99	91	72	61	51	40	29	21	12	2
1	6/27/79	0	41	0.0814	14157	100	100	99	93	77	66	55	45	33	24	14	3
1	6/27/79	0	43	0.0860	13682	100	100	98	93	78	67	55	44	32	25	16	4
1	6/27/79	0	45	0.0930	14220	100	100	99	94	76	66	53	44	32	24	14	3
1	6/27/79	1	5	0.0144	9419												
1	6/27/79	1	10	0.0047	6219	99	99	99	97	92	83	74	65	52	42	29	11
1	6/27/79	1	16	0.0010	3969	99	99	99	98	92	86	78	70	57	48	33	14

TABLE E1- 1. CONTINUED

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
1	7/ 3/79	8	2	0.0047	7961	99	99	98	97	89	78	64	53	38	30	19	7
1	7/ 3/79	8	6	0.0087	6081	100	100	99	98	91	86	73	62	48	37	24	9
1	7/ 3/79	8	15	0.0192	7874	100	100	100	98	93	87	76	64	49	38	25	10
1	7/ 3/79	8	25	0.0052	4458	100	99	99	99	95	92	84	75	60	49	34	14
1	7/ 3/79	8	32	0.0005	4723	100	99	99	99	97	94	90	83	71	60	41	17
1	7/ 3/79	8	46	0.0127	30717	100	100	98	89	58	43	31	22	14	9	4	2
1	7/ 3/79	8	53	0.2985	29810												
1	7/ 3/79	8	55	0.2704	25285	100	98	97	92	74	63	50	40	29	22	14	3
1	7/ 3/79	8	57	0.2439	24887	100	99	98	90	74	62	49	38	27	18	10	0
1	7/ 3/79	8	59	0.1951	27572	99	99	96	89	72	60	48	37	24	17	7	0
1	7/ 3/79	9	0	0.1812	26626	100	99	97	89	65	53	43	34	23	16	8	0
1	7/ 3/79	9	2	0.1642	25353	100	100	98	92	78	65	53	43	30	22	11	0
1	7/ 3/79	9	4	0.1330	20565	100	100	99	95	82	73	60	49	36	28	17	6
1	7/ 3/79	9	6	0.1188	19550	100	99	98	93	80	69	57	46	34	27	17	6
1	7/ 3/79	9	8	0.1053	21767	100	100	99	95	85	73	60	49	37	28	18	5
1	7/ 3/79	9	10	0.0837	21216	100	100	100	97	86	74	62	51	39	30	19	7
1	7/ 3/79	9	12	0.0629	17905	100	100	99	95	85	76	65	56	43	34	23	8
1	7/ 3/79	9	14	0.0486	17182	100	100	100	96	86	78	68	59	45	36	25	11
1	7/ 3/79	9	16	0.0375	17248	100	99	98	95	85	80	69	59	47	37	25	10
1	7/ 3/79	9	18	0.0321	15215	100	99	98	96	87	79	69	58	44	35	24	10
1	7/ 3/79	9	20	0.0245	9195	100	99	98	91	78	69	56	44	29	21	11	2
1	7/ 3/79	9	26	0.0791	38152	99	98	96	86	67	55	42	33	23	17	10	2
1	7/ 3/79	9	28	0.1846	38797	100	99	96	85	66	54	45	36	25	20	12	4
1	7/ 3/79	9	30	0.5375	33580	100	98	96	85	64	52	40	33	22	17	9	3
1	7/ 3/79	9	32	0.7034	44149	100	99	96	88	66	53	41	34	24	19	12	3
1	7/ 3/79	9	34	0.8325	37219	100	98	95	82	60	47	37	29	19	14	7	0
1	7/ 3/79	9	36	1.0528	40134	100	100	97	85	63	51	40	33	22	16	9	1
1	7/ 3/79	9	38	1.1508	56852	100	99	94	81	58	44	35	26	16	10	3	0
1	7/ 3/79	9	40	1.1508	52103	100	99	94	79	57	47	35	27	18	13	7	0
1	7/ 3/79	9	42	1.1508	43328	100	100	96	84	64	53	41	33	23	17	10	1
1	7/ 3/79	9	44	1.3009	39073												
1	7/ 3/79	9	46	1.2346	46469	100	99	96	85	63	50	38	30	20	14	7	0
1	7/ 3/79	9	48	0.7646	43770												
1	7/ 3/79	9	50	0.4457	34331	99	97	92	79	59	49	37	30	21	15	8	0
1	7/ 3/79	9	52	0.2451	38330	100	99	96	84	63	53	42	33	24	17	10	0
1	7/ 3/79	9	54	0.1642	28844	99	98	93	82	64	55	44	37	27	21	14	4
1	7/ 3/79	9	56	0.0883	24983	100	99	96	87	65	60	50	41	31	25	16	4
1	7/ 3/79	9	58	0.0502	20186	100	99	97	90	76	66	55	47	35	27	17	5
1	7/ 3/79	10	6	0.0052	7986	100	100	99	92	80	72	63	55	44	35	25	10
1	7/ 3/79	10	11	0.0010	4995	100	100	99	94	85	78	71	64	53	46	33	15
1	7/ 3/79	10	17	0.0002	1860	100	99	99	98	91	88	83	78	70	62	50	27
1	7/ 3/79	20	54	0.0648	49948	100	99	97	88	68	58	46	38	28	22	15	5
1	7/ 3/79	20	56	0.1360	45740	100	99	95	85	65	54	43	35	27	21	14	5
1	7/ 3/79	20	58	0.2098	35752	98	97	93	83	63	53	41	32	23	17	11	5
1	7/ 3/79	21	0	0.1744	29655	100	99	99	95	79	67	54	43	33	25	16	6
1	7/ 3/79	21	2	0.1053	26317												
1	7/ 3/79	21	4	0.0629	22800	99	97	94	87	72	63	52	43	32	25	6	6
1	7/ 3/79	21	6	0.0402	20495	100	100	99	94	81	71	58	48	37	29	18	6
1	7/ 3/79	21	8	0.0245	17857	100	99	98	94	83	75	66	56	44	36	25	12
1	7/ 3/79	21	15	0.0036	7310	99	99	99	96	87	81	74	61	52	42	30	13
1	7/ 3/79	21	25	0.0004	5761	100	99	99	98	90	82	74	66	55	46	34	15

TABLE E1- 1. CONCLUDED

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
1	7/ 3/79	21	37	0.0002	5457	100	100	100	100	96	91	83	76	66	58	45	25
1	7/13/79	10	1	0.0005	8072	100	100	99	98	97	95	87	78	65	54	38	17
1	7/13/79	10	9	0.0	6786	100	100	100	100	99	97	91	82	67	55	39	17
1	7/13/79	10	22	0.0	3619	100	100	100	100	100	99	96	91	80	70	54	29
1	7/13/79	20	9	0.1391	65475	100	98	95	84	63	52	40	32	22	16	8	0
1	7/13/79	20	15	0.1988	20503	100	100	98	88	70	59	47	38	27	21	13	4
1	7/13/79	20	20	0.0452	10614	99	99	97	93	79	71	60	48	36	27	16	5
1	7/13/79	20	24	0.0127	8310	100	100	98	95	86	79	71	62	50	40	28	13
1	7/13/79	20	31	0.0100	4312	99	99	99	97	93	88	83	76	65	54	39	18
1	7/14/79	0	50	0.0688	40457	100	97	93	77	47	36	26	19	12	7	2	0
1	7/14/79	0	53	0.8155	32345	99	99	93	77	51	40	30	23	15	10	4	0
1	7/14/79	0	58	0.5437	20795	99	98	94	84	63	52	43	36	27	22	14	6
1	7/14/79	1	4	0.2451	17178	99	97	93	82	62	51	41	33	23	17	10	2
1	7/14/79	1	9	0.4219	20444	100	99	95	84	62	51	40	32	23	17	10	2
1	7/14/79	1	16	0.8155	40833	99	98	93	79	57	45	35	26	18	13	6	0
1	7/14/79	1	21	0.3735	20481	99	98	98	96	83	64	54	42	35	24	12	4
1	7/14/79	1	26	0.1269	14697												
1	7/14/79	1	35	0.5862	18876												
1	7/14/79	1	42	0.1880	15609	100	98	95	87	69	60	49	41	31	25	16	7
1	7/14/79	1	51	0.2246	16557	100	98	96	87	70	60	48	40	30	23	14	5
1	7/14/79	1	59	0.0469	10546	100	99	97	89	73	64	55	46	35	28	19	8
1	7/14/79	2	7	0.0068	5776												

TABLE E1- 2. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1979 SITE 2

						EQUIVALENT SPHERICAL DIAMETER (MICRONS)											
						50	40	32	24	16	12	8	6	4	3	2	1
SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	PERCENT FINER THAN											
2	6/12/79	17	55	0.0114	8915												
2	6/12/79	17	58	0.0116	11658												
2	6/12/79	18	1	0.0118	14303												
2	6/12/79	18	2	0.0119	42491												
2	6/12/79	18	4	0.1773	58053												
2	6/12/79	18	6	0.3426	84726												
2	6/12/79	18	7	0.8162	75879												
2	6/12/79	18	8	1.2898	91129												
2	6/12/79	18	10	1.9128	82208												
2	6/12/79	18	14	2.2328	73748												
2	6/12/79	18	18	2.0105	52669												
2	6/12/79	18	24	1.0624	37346												
2	6/12/79	18	28	0.4754	25210												
2	6/12/79	18	40	0.0119	9525												
2	6/12/79	18	45	0.0060	6821												
2	6/12/79	18	50	0.0031	4614												
2	6/12/79	18	55	0.0017	3428												
2	6/12/79	19	3	0.0005	2245												
2	6/12/79	19	8	0.0002	1738												
2	6/27/79	0	11	0.0152	43255	100	98	95	82	54	41	29	20	11	7	2	0
2	6/27/79	0	12	0.0307	36668	100	98	95	86	60	46	32	23	12	8	3	0
2	6/27/79	0	14	0.1360	70266												
2	6/27/79	0	16	0.8240	79319	98	96	93	82	59	47	36	29	21	17	11	4
2	6/27/79	0	20	0.7985	55635	99	98	96	91	72	61	49	41	31	25	16	7
2	6/27/79	0	23	0.5375	38296	99	99	97	92	77	67	54	45	35	28	20	10
2	6/27/79	0	25	0.3579	36215	99	98	95	86	70	61	49	41	31	26	17	9
2	6/27/79	0	27	0.2246	36186												
2	6/27/79	0	30	0.1483	31200	99	98	95	89	72	61	50	42	30	23	15	6
2	6/27/79	0	32	0.1360	27410	100	100	98	88	70	59	48	39	27	20	11	1
2	6/27/79	0	34	0.1391	25729	100	98	96	86	70	61	49	40	30	23	14	4
2	6/27/79	0	37	0.1407	27253	100	99	95	88	71	62	50	40	29	23	15	5
2	6/27/79	0	39	0.1417	27254	98	97	95	89	71	60	49	41	32	26	19	10
2	6/27/79	0	41	0.1452	26883	99	98	94	83	65	57	47	39	30	22	15	6
2	6/27/79	0	44	0.1676	30786	100	99	97	87	68	56	46	38	28	23	15	6
2	6/27/79	0	46	0.1951	32605	99	98	95	83	64	55	44	37	27	21	14	6
2	6/27/79	0	48	0.2246	29638												
2	6/27/79	0	51	0.2246	28122												
2	6/27/79	0	53	0.1951	29040	100	100	98	92	74	59	43	36	27	21	14	5
2	6/27/79	1	1	0.0334	16531	99	98	97	91	77	67	57	48	38	31	21	9
2	6/27/79	1	6	0.0144	11463	100	99	98	93	82	74	66	57	45	38	27	13
2	6/27/79	1	11	0.0063	7361	100	99	98	93	84	78	71	65	55	46	35	19
2	6/27/79	1	17	0.0025	6160	100	100	99	97	91	85	80	73	62	54	42	23
2	6/27/79	1	21	0.0017	1389												
2	7/ 3/79	8	0	0.0005	8019	99	99	98	98	90	81	69	57	42	33	22	9
2	7/ 3/79	8	4	0.0015	3984	100	99	99	98	94	87	77	67	53	43	35	13
2	7/ 3/79	8	12	0.0023	5126												
2	7/ 3/79	8	23	0.0055	7132	99	99	99	99	98	96	90	82	69	59	43	20
2	7/ 3/79	8	30	0.0036	7249	100	100	99	99	99	97	92	85	73	60	42	19
2	7/ 3/79	8	36	0.0018	3707	100	100	99	99	99	99	98	95	85	76	58	29
2	7/ 3/79	8	41	0.0007	3881	99	99	97	97	95	90	80	72	56	45	30	13
2	7/ 3/79	8	45	0.0008	6814												

TABLE E1- 2. CONTINUED

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
2	7/ 3/79	8	49	0.0213	30382	100	100	100	96	83	73	61	51	38	30	21	9
2	7/ 3/79	8	50	0.0213	26057	100	99	99	96	84	74	62	52	40	32	22	9
2	7/ 3/79	8	52	0.0307	45365	100	99	98	92	73	61	49	40	30	23	16	6
2	7/ 3/79	8	54	0.2061	58367	99	99	98	88	72	62	50	42	30	25	16	7
2	7/ 3/79	8	56	0.3222	72545	99	97	95	86	67	56	45	37	27	21	14	4
2	7/ 3/79	8	58	0.3579	57642	99	98	94	84	66	56	45	36	26	19	11	3
2	7/ 3/79	9	0	0.3125	47520												
2	7/ 3/79	9	2	0.2844	41141	99	98	96	87	70	61	48	40	29	22	14	5
2	7/ 3/79	9	4	0.2620	40755	100	99	96	86	69	61	50	43	32	26	17	7
2	7/ 3/79	9	6	0.2451	37712	100	99	98	93	77	66	55	48	36	28	20	8
2	7/ 3/79	9	8	0.2025	35101	99	99	97	90	76	68	56	48	38	31	22	10
2	7/ 3/79	9	11	0.1395	35014												
2	7/ 3/79	9	13	0.1084	31984	100	99	98	94	80	72	62	53	42	35	25	11
2	7/ 3/79	9	15	0.0895	23349	100	99	98	92	79	70	60	52	42	35	25	12
2	7/ 3/79	9	17	0.0814	19940	100	99	98	93	80	69	58	48	38	31	22	9
2	7/ 3/79	9	19	0.0770	18208	100	99	97	92	79	71	59	49	36	29	18	5
2	7/ 3/79	9	21	0.0758	16598	99	99	98	92	79	67	56	48	36	30	20	9
2	7/ 3/79	9	23	0.0937	15578	99	99	97	90	75	65	55	46	34	27	16	4
2	7/ 3/79	9	25	0.1779	26906	100	99	98	88	69	60	48	38	29	21	13	3
2	7/ 3/79	9	27	0.3454	47838	100	99	94	83	62	52	41	33	24	18	12	3
2	7/ 3/79	9	29	0.5522	84619	100	99	93	79	55	42	30	21	12	7	2	0
2	7/ 3/79	9	32	0.8070	66727	100	99	96	85	63	52	40	32	22	15	9	1
2	7/ 3/79	9	34	0.9373	89186	100	99	97	81	58	46	34	25	15	10	4	0
2	7/ 3/79	9	36	1.3567	101071	100	99	93	79	58	46	36	28	21	15	8	2
2	7/ 3/79	9	38	1.5829	116519	100	97	88	64	41	32	24	19	13	10	5	0
2	7/ 3/79	9	40	1.7075	100114	100	100	96	82	61	49	39	31	22	17	11	3
2	7/ 3/79	9	43	1.9031	81438	100	98	94	80	58	48	37	29	20	14	10	3
2	7/ 3/79	9	45	1.8255	83601	99	99	94	83	62	53	41	34	25	20	13	4
2	7/ 3/79	9	47	1.3966	72664	100	99	94	82	61	50	39	31	22	16	11	4
2	7/ 3/79	9	49	0.9300	62684	100	99	95	84	67	58	47	40	31	25	19	8
2	7/ 3/79	9	51	0.5485	59085												
2	7/ 3/79	9	53	0.2662	82453	99	98	92	74	52	42	34	27	21	17	11	4
2	7/ 3/79	9	55	0.1477	61871	99	97	90	74	50	41	33	28	21	17	11	3
2	7/ 3/79	9	57	0.0961	52414	100	96	89	72	50	42	35	28	22	17	11	4
2	7/ 3/79	9	59	0.0683	33191	100	98	93	79	60	52	44	37	30	24	18	10
2	7/ 3/79	10	2	0.0389	21665	100	99	97	87	70	60	51	44	35	30	21	10
2	7/ 3/79	10	8	0.0111	18408	100	98	94	82	66	59	50	44	36	30	22	10
2	7/ 3/79	10	14	0.0036	16069	100	99	95	85	70	63	55	50	42	36	28	15
2	7/ 3/79	10	19	0.0022	8280	99	97	94	86	74	69	62	57	49	43	33	17
2	7/ 3/79	10	28	0.0010	6886	100	100	95	88	78	71	64	59	52	45	37	22
2	7/ 3/79	20	48	0.0202	119017	100	99	96	77	47	38	31	26	20	16	11	5
2	7/ 3/79	20	49	0.0436	108213	99	97	92	75	47	36	28	24	17	13	8	2
2	7/ 3/79	20	50	0.0907	104973	99	97	92	77	53	41	32	27	20	16	10	4
2	7/ 3/79	20	51	0.2282	103320	100	99	96	80	55	44	35	29	21	17	12	4
2	7/ 3/79	20	53	0.5312	87264	100	99	94	78	55	44	34	27	18	14	8	2
2	7/ 3/79	21	0	0.1778	47143	99	98	96	85	63	48	36	29	19	14	7	0
2	7/ 3/79	21	4	0.0629	30798	100	100	99	92	78	69	58	48	36	28	18	5
2	7/ 3/79	21	10	0.0181	22115	100	100	97	88	75	68	59	51	41	34	24	12
2	7/ 3/79	21	15	0.0103	15826	100	100	97	88	76	68	61	54	44	37	27	14
2	7/ 3/79	21	20	0.0068	12175	100	99	96	90	79	73	66	59	50	42	32	17
2	7/ 3/79	21	25	0.0075	12090	100	99	97	90	76	68	59	53	44	39	31	18

TABLE E1- 2. CONCLUDED

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
2	7/ 3/79	21	32	0.0087	12545	100	99	96	91	79	71	63	55	45	40	30	17
2	7/ 3/79	21	39	0.0060	9490	99	99	98	95	88	82	76	69	59	53	43	26
2	7/ 3/79	21	44	0.0028	7687	100	99	97	92	76	67	62	55	45	38	28	14
2	7/ 3/79	21	51	0.0006	7000	100	98	94	87	72	64	59	53	45	39	32	21
2	7/13/79	9	59	0.0009	9802	100	100	100	99	99	96	89	79	63	54	40	22
2	7/13/79	10	7	0.0010	8431	100	100	100	99	97	92	85	73	58	48	33	16
2	7/13/79	10	18	0.0004	3023	100	100	99	99	99	95	87	79	66	55	41	21
2	7/13/79	20	6	0.2535	76755	100	99	94	80	54	42	31	22	13	9	3	0
2	7/13/79	20	8	0.7815	75618	100	98	94	77	51	42	32	27	19	15	10	5
2	7/13/79	20	10	0.7493	50131	99	98	94	80	56	45	36	29	21	16	10	4
2	7/13/79	20	12	0.5720	39864	100	99	95	81	58	47	35	27	19	13	8	1
2	7/13/79	20	14	0.3426	41962	99	98	94	81	62	52	41	32	23	17	10	3
2	7/13/79	20	16	0.1608	29141	100	100	98	86	69	60	49	40	31	25	17	6
2	7/13/79	20	18	0.1188	21856	99	98	95	83	70	61	52	42	32	24	16	7
2	7/13/79	20	20	0.0860	17970	100	99	96	89	72	63	53	45	34	26	18	8
2	7/13/79	20	22	0.0436	17509	100	99	96	88	72	63	53	45	34	26	17	7
2	7/13/79	20	29	0.0063	9686	100	100	99	94	82	75	63	52	37	26	14	2
2	7/13/79	20	35	0.0020	6989	100	99	96	89	84	69	60	54	42	33	22	8
2	7/13/79	20	38	0.0017	5063	99	98	94	85	73	65	58	51	42	33	24	9
2	7/14/79	0	50	0.0907	63026	100	99	91	73	50	40	30	23	18	15	7	1
2	7/14/79	0	52	0.4398	69528	100	97	90	73	50	39	29	24	16	13	8	2
2	7/14/79	0	55	1.1303	52075	100	98	93	78	53	41	31	23	15	9	5	0
2	7/14/79	0	57	0.9424	48730	100	98	94	81	59	47	36	26	17	12	6	0
2	7/14/79	0	59	0.6292	37139	100	100	94	82	62	52	42	35	26	21	14	6
2	7/14/79	1	1	0.5365	33010												
2	7/14/79	1	3	0.4295	34219	99	98	92	77	58	48	40	32	25	19	12	4
2	7/14/79	1	6	0.4279	31835	100	99	94	81	60	48	37	28	19	14	6	0
2	7/14/79	1	8	0.6292	42203	100	99	91	75	53	42	34	28	21	16	11	5
2	7/14/79	1	11	0.6737	36588	100	98	94	81	58	47	38	31	24	19	13	6
2	7/14/79	1	16	1.0528	37718	100	99	94	80	57	48	38	31	22	17	12	4
2	7/14/79	1	21	0.3401	18768	99	98	95	82	61	51	39	32	23	18	12	9
2	7/14/79	1	23	0.2393	31139												
2	7/14/79	1	25	0.1690	39486												
2	7/14/79	1	29	0.0907	28148	100	99	92	70	45	37	30	23	16	13	8	2
2	7/14/79	1	44	0.2704	27243												
2	7/14/79	1	49	0.3301	29278	99	98	94	82	63	54	43	37	28	21	15	7
2	7/14/79	1	53	0.2128	18693	100	98	95	85	70	59	48	42	33	27	19	10
2	7/14/79	2	11	0.0127	7228	100	97	94	85	73	66	57	50	40	31	22	9

TABLE E1- 3. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1979 SITE 4

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
4	6/12/79	17	12	0.3680	13												
4	6/12/79	18	24	0.8780	283												
4	6/12/79	19	4	3.7470	12470	99	99	99	98	95	87	74	61	46	36	22	6
4	6/12/79	19	25	11.1570	10087												
4	6/12/79	20	0	16.2260	41788	100	100	100	91	72	63	51	43	32	24	14	4
4	6/12/79	21	3	15.1210	19246	100	100	98	97	82	72	65	55	43	34	23	9
4	6/12/79	21	52	15.2840	15131	100	100	100	98	93	89	80	71	55	45	30	12
4	6/12/79	23	6	19.5890	14549	100	100	100	97	94	91	85	75	61	50	36	15
4	6/13/79	0	33	19.1930	10166	100	100	100	99	95	91	85	76	61	50	34	12
4	6/13/79	1	56	17.3210	7986	100	100	99	98	94	91	85	76	63	53	37	17
4	6/13/79	4	53	0.9630	2880	100	100	99	97	87	80	71	62	50	42	33	15
4	6/13/79	8	14	1.8180	1170												
4	6/27/79	4	35	9.5710	17215	100	100	100	96	84	73	61	51	38	29	17	6
4	6/27/79	5	32	10.5110	12534	100	100	98	95	84	75	68	59	46	38	26	12
4	6/27/79	7	40	9.4960	4747	100	100	100	99	92	87	78	70	57	48	32	13
4	6/27/79	9	42	3.3810	2665	100	100	100	99	93	88	79	70	57	47	34	14
4	6/27/79	11	46	1.6670	1167												
4	6/27/79	17	54	0.9910	429												
4	7/ 3/79	9	4	9.3630	5056												
4	7/ 3/79	10	4	24.8610	15816												
4	7/ 3/79	11	6	24.9980	8034	100	100	100	99	94	89	81	70	57	47	32	15
4	7/ 3/79	12	18	23.4180	7108	100	99	98	97	93	87	78	70	56	46	33	13
4	7/ 3/79	14	41	24.5390	7578	100	99	98	98	95	92	85	76	62	56	35	12
4	7/ 3/79	18	30	16.5940	4503	100	99	99	98	94	91	85	78	67	57	42	20
4	7/ 3/79	21	19	3.7100	5936	100	100	99	94	81	72	60	50	38	31	21	8
4	7/ 3/79	22	11	5.4540	18583	100	100	98	88	69	57	48	40	35	24	15	5
4	7/ 3/79	23	43	6.3430	6988	100	100	98	94	83	73	62	53	41	34	23	9
4	7/ 4/79	0	40	0.3960	6367	100	100	99	97	88	81	71	61	49	40	30	15
4	7/ 4/79	4	49	1.9390	1441												
4	7/13/79	10	51	0.4250	6												
4	7/13/79	17	27	0.4530	23												
4	7/13/79	21	0	0.4810	49												
4	7/13/79	22	0	0.7650	691												
4	7/14/79	1	58	21.3340	14609	100	99	98	92	74	64	53	43	32	26	15	5
4	7/14/79	2	58	19.8320	8379	99	99	98	95	86	80	64	60	48	40	29	13
4	7/14/79	3	34	22.6190	5465	100	99	99	97	93	88	79	68	55	44	31	14
4	7/14/79	4	16	23.2400	4125	99	99	98	98	95	90	84	76	64	53	39	19
4	7/14/79	5	34	26.8690	5477	100	99	98	98	92	88	79	70	56	47	34	16
4	7/14/79	5	50	26.9480	7143	100	100	100	98	93	89	80	70	56	47	33	14
4	7/14/79	9	6	23.0780	3512												
4	7/14/79	17	38	1.6840	1290												

TABLE E1- 4. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1979 SITE 5

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
5	6/12/79	18	37	1.0680	43702												
5	6/12/79	18	53	3.0470	41392												
5	6/12/79	19	40	6.1530	21651												
5	6/12/79	20	36	14.5380	19735												
5	6/12/79	20	42	20.7790	17667	99	99	99	96	85	73	61	52	39	31	19	6
5	6/12/79	21	36	21.3790	16798	100	100	100	99	96	90	82	72	56	46	32	14
5	6/12/79	22	57	20.3600	8170	100	100	100	99	96	94	88	79	65	53	37	18
5	6/13/79	0	8	16.0840	5772												
5	6/13/79	1	7	8.2990	4992												
5	6/27/79	4	22	14.8000	9836												
5	6/27/79	5	19	14.5150	6659	100	100	100	100	96	93	83	72	59	48	36	18
5	6/27/79	7	59	2.8290	2111												
5	7/ 3/79	8	47	2.3540	16653												
5	7/ 3/79	10	27	31.2050	14695	100	100	99	99	94	86	75	63	49	40	27	10
5	7/ 3/79	11	29	28.2790	10822	100	100	100	100	88	78	65	56	43	34	23	8
5	7/ 3/79	12	46	27.8240	7626	100	100	99	98	93	87	78	69	55	45	32	15
5	7/ 3/79	15	2	24.2780	4837	100	100	100	99	96	93	85	77	64	53	38	16
5	7/ 3/79	18	15	2.9450	2778												
5	7/ 3/79	21	44	3.6530	9884												
5	7/ 3/79	22	37	5.4580	7285												
5	7/ 3/79	23	32	4.1620	4136												
5	7/ 4/79	0	31	2.7640	4807												
5	7/13/79	21	16	1.6440	9916	99	99	96	79	52	44	39	35	30	25	19	9
5	7/13/79	21	20	1.7650	6595	100	100	97	83	56	51	43	37	27	20	12	2
5	7/13/79	22	36	1.7900	9385												
5	7/14/79	2	15	30.0160	2923												
5	7/14/79	3	26	26.7570	6867												
5	7/14/79	4	34	25.5800	7903												
5	7/14/79	5	50	25.6360	2345												
5	7/14/79	9	24	4.1300	2542												

TABLE E1- 5. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1979 SITE 6

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
6	6/12/79	18	31	3.1710	119208	100	98	92	73	53	41	33	26	18	14	8	2
6	6/12/79	18	58	16.3270	45743	98	97	93	84	58	48	39	32	23	18	11	4
6	6/12/79	19	35	1.1890	19346	99	97	94	83	66	56	47	41	31	26	17	8
6	6/12/79	20	45	0.2490	5561	99	99	98	87	69	63	56	49	40	35	27	13
6	6/12/79	20	49	0.2350	3212												
6	6/12/79	21	43	0.1030	3109												
6	6/27/79	2	14	0.4020	6968												
6	7/ 3/79	9	53	3.5630	34131	99	98	94	81	60	51	42	35	25	20	12	3
6	7/ 3/79	10	21	10.5290	17188	98	94	88	74	55	49	41	34	25	18	10	0
6	7/ 3/79	11	22	0.4590	6597	99	96	89	71	52	44	38	33	26	21	15	7
6	7/ 3/79	12	38	0.1270	2361												
6	7/ 3/79	21	37	0.1700	11598	99	97	93	84	66	55	45	39	30	25	17	8
6	7/ 3/79	21	47	0.1730	7379	99	97	95	87	64	54	45	38	29	23	16	6
6	7/ 3/79	22	30	0.1730	7299	100	99	98	93	80	70	62	53	43	36	26	12
6	7/ 3/79	23	36	0.1290	3357	99	98	97	94	83	77	67	59	48	41	29	14
6	7/13/79	10	58	3.0260	2211												
6	7/13/79	21	12	0.0400	19185	99	99	97	89	68	56	45	38	29	24	17	8
6	7/13/79	22	31	0.0480	4097	100	100	99	98	87	80	71	62	50	40	26	9
6	7/14/79	2	10	0.3680	16445	100	99	99	94	76	54	44	35	29	22	17	11	4
6	7/14/79	3	14	0.4810	5589	99	96	88	72	51	44	35	29	20	16	9	1
6	7/14/79	4	28	0.5100	16081	98	97	94	82	60	49	40	33	24	20	13	5
6	7/14/79	5	45	0.5660	8389	100	98	92	78	57	48	41	34	25	19	12	3

TABLE E1- 6. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1979 SITE 8

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
8	6/12/79	18	20	25.5758	32600	100	100	100	97	83	69	53	44	34	28	19	7
8	6/12/79	18	30	7.0962	31495	100	99	96	76	53	44	36	30	21	17	11	4
8	6/12/79	18	35	5.9890	31550	100	100	97	84	62	52	42	35	25	18	11	4
8	6/12/79	18	40	5.9041	24234	99	98	96	90	73	63	51	41	29	21	13	3
8	6/12/79	18	45	3.5962	25633	100	99	98	95	83	71	57	46	33	26	17	7
8	6/12/79	18	50	1.9595	21881	100	100	99	96	84	75	62	51	37	29	19	7
8	6/12/79	18	55	1.6282	19330	100	100	99	98	90	80	67	56	46	32	22	8
8	6/12/79	19	0	1.2969	15802	99	99	98	97	92	83	71	59	44	35	23	11
8	6/12/79	19	5	0.7855	15004	100	100	99	99	94	88	77	64	49	38	27	12
8	6/12/79	19	10	0.5335	13489	100	100	99	98	94	90	79	66	52	42	28	12
8	6/12/79	19	20	0.2549	11653	99	99	97	97	94	91	81	71	56	46	31	15
8	6/12/79	19	30	0.1212	7305	100	100	100	99	97	94	88	77	62	50	35	16
8	6/12/79	19	45	0.0439	5550	100	100	100	99	98	96	92	84	74	64	48	25
8	6/12/79	20	0	0.0303	5281	100	99	99	99	98	96	91	87	75	66	51	28
8	6/12/79	20	15	0.0173	4441	100	99	99	98	97	96	92	87	76	65	50	27
8	6/12/79	20	30	0.0126	3652	100	99	99	99	98	97	93	85	74	63	48	24
8	6/12/79	20	45	0.0079	2903	100	99	99	99	98	97	91	83	70	60	47	26
8	6/12/79	21	0	0.0031	3467	100	100	100	100	99	98	92	86	73	66	53	34
8	6/27/79	0	30	3.9700	51072	100	99	93	74	46	38	31	26	20	15	10	4
8	6/27/79	0	40	2.2314	22611	99	98	94	82	66	60	52	44	34	28	19	10
8	6/27/79	0	50	2.1937	20004	100	100	98	91	75	67	56	46	35	28	19	9
8	6/27/79	1	0	2.1559	20563	99	98	93	79	62	55	45	39	30	23	17	7
8	6/27/79	1	10	1.8264	15734	100	100	98	95	85	76	63	53	40	31	21	7
8	6/27/79	1	20	0.9469	9775	100	100	99	98	91	86	76	67	53	42	30	15
8	6/27/79	1	30	0.4338	8739	100	100	100	98	96	86	77	67	53	42	30	15
8	6/27/79	1	40	0.2549	7221	100	100	100	99	94	91	84	75	63	54	40	21
8	6/27/79	1	50	0.1546	5551	100	100	100	100	98	93	88	80	67	56	41	20
8	6/27/79	2	5	0.0812	4255	100	100	100	100	99	96	90	84	72	62	47	27
8	6/27/79	2	20	0.0556	2719												
8	6/27/79	2	35	0.0384	2380	99	99	99	98	97	96	90	84	71	61	47	26
8	7/ 3/79	8	9	0.3779	565												
8	7/ 3/79	8	15	0.4977	13543	100	99	99	84	82	73	62	53	41	33	22	9
8	7/ 3/79	8	30	0.8662	10809												
8	7/ 3/79	8	45	0.5061	11168	100	100	99	98	89	82	72	61	49	39	28	13
8	7/ 3/79	8	55	1.6778	28086	100	98	93	79	57	49	42	34	25	20	12	4
8	7/ 3/79	9	5	2.3220	26890	100	98	95	83	63	57	49	41	30	25	16	6
8	7/ 3/79	9	15	2.5485	19526	100	100	98	94	81	72	61	51	40	32	22	8
8	7/ 3/79	9	25	2.3492	35054	100	99	94	73	48	40	32	26	19	15	9	2
8	7/ 3/79	9	35	7.7886	34620	100	99	91	73	53	44	35	29	21	16	10	4
8	7/ 3/79	9	40	11.6241	45907	100	100	97	80	49	36	29	22	14	10	5	0
8	7/ 3/79	9	45	14.5832	20809	100	100	98	91	83	44	33	27	19	14	8	2
8	7/ 3/79	9	50	13.2410	13844	100	100	99	97	80	67	53	44	32	26	17	7
8	7/ 3/79	9	55	10.7958	13812	100	100	99	97	83	72	58	49	38	30	21	9
8	7/ 3/79	10	0	7.8495	28669	100	100	97	87	69	58	48	40	31	25	18	8
8	7/ 3/79	10	5	5.8828	15442	100	100	99	95	95	83	73	61	51	40	34	25	14
8	7/ 3/79	10	10	5.1423	18424	100	100	98	90	77	68	57	47	37	30	21	9
8	7/ 3/79	10	15	3.3528	25066	100	100	94	79	61	52	44	37	26	22	14	6
8	7/ 3/79	10	20	3.1432	18874	100	98	94	86	72	66	55	47	36	29	19	7
8	7/ 3/79	10	25	2.7253	13957	100	100	99	97	90	85	73	64	52	44	33	17
8	7/ 3/79	10	35	2.2189	8118	100	100	99	96	89	85	77	67	54	47	34	17
8	7/ 3/79	10	45	1.6333	6396	99	99	99	96	91	86	78	70	57	48	35	15

TABLE E1- 6. CONCLUDED

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
8	7/ 3/79	10	55	0.4114	4522												
8	7/ 3/79	11	5	0.2381	3147	100	100	100	98	95	91	84	78	67	59	46	21
8	7/ 3/79	12	2	0.1037	1193												
8	7/ 3/79	21	24	1.5291	15899	100	100	100	98	88	82	71	61	49	40	28	15
8	7/ 3/79	21	54	0.2772	6030	100	100	100	99	97	94	87	80	69	61	45	24
8	7/ 3/79	22	20	0.0982	3415	100	99	99	99	98	96	91	87	77	68	54	27
8	7/ 3/79	22	56	0.0390	1643												
8	7/13/79	20	10	0.3891	22409	100	100	97	88	66	55	44	34	24	17	9	1
8	7/13/79	20	20	1.6141	40035	99	98	93	74	53	44	36	31	22	18	12	4
8	7/13/79	20	25	1.9595	32986	100	99	96	90	69	57	43	33	22	15	8	0
8	7/13/79	20	30	1.4442	21678	100	100	99	92	70	58	50	43	33	26	18	9
8	7/13/79	20	35	0.9953	15136	99	97	96	93	80	70	60	48	36	27	19	7
8	7/13/79	20	40	0.5884	12349	100	100	100	99	91	84	70	56	42	30	18	5
8	7/13/79	20	55	0.2424	8391	100	100	100	98	96	90	80	68	50	39	24	8
8	7/13/79	21	10	0.1012	6731	99	99	99	99	95	92	84	73	58	45	30	12
8	7/13/79	21	25	0.0562	5396	100	99	99	97	90	94	88	80	65	54	36	15
8	7/14/79	0	55	1.7557	31464	100	99	93	77	55	45	37	30	22	17	11	3
8	7/14/79	1	0	4.6071	22571	100	98	94	80	60	51	41	34	25	19	12	4
8	7/14/79	1	5	6.4506	21852												
8	7/14/79	1	15	6.7055	21536	100	98	92	74	54	45	37	31	22	17	10	3
8	7/14/79	1	20	6.7583	23189	100	98	90	68	45	38	31	27	19	15	9	2
8	7/14/79	1	25	6.8187	21905	100	99	94	82	59	50	41	33	24	19	12	4
8	7/14/79	1	30	6.4562	19251	100	99	95	75	50	41	33	27	20	15	9	3
8	7/14/79	1	35	5.7880	12596	99	99	98	90	74	65	54	45	34	27	18	7
8	7/14/79	1	40	5.6464	9563	99	99	99	96	84	77	65	55	42	33	23	11
8	7/14/79	1	45	5.5855	12960	99	99	97	86	66	57	47	39	30	24	16	5
8	7/14/79	1	50	5.7455	13237	99	98	96	83	58	47	39	33	25	19	12	5
8	7/14/79	2	0	5.2358	10324	100	100	98	85	62	53	44	37	27	22	14	6
8	7/14/79	2	5	3.2338	11045	99	98	94	83	67	60	50	43	34	28	19	8
8	7/14/79	2	10	2.6392	8356	100	99	97	90	77	69	59	50	39	31	21	8
8	7/14/79	2	15	2.2364	7261	100	100	98	92	82	74	64	55	43	35	24	11
8	7/14/79	2	20	1.7415	6378	99	99	98	93	83	75	66	57	45	36	25	10
8	7/14/79	2	25	1.3706	5919	99	99	97	91	79	71	63	54	41	31	21	7
8	7/14/79	2	35	0.7419	4617	100	99	96	88	73	65	57	49	38	32	22	9
8	7/14/79	2	45	0.3630	18280	100	98	90	69	46	37	30	24	18	14	9	2
8	7/14/79	3	0	0.3108	3467	98	96	93	85	70	63	56	48	39	32	22	10
8	7/14/79	3	15	0.2262	2689	99	98	96	88	74	68	59	52	40	33	22	9
8	7/14/79	3	30	0.1620	2790	100	100	100	98	92	87	79	71	58	48	35	16

TABLE E1- 7. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1980 SITE 1

						EQUIVALENT SPHERICAL DIAMETER (MICRONS)											
						50	40	32	24	16	12	8	6	4	3	2	1
SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	PERCENT FINER THAN											
1	5/29/80	7	40	0.0052	6920	99	99	98	97	94	91	84	76	62	50	35	16
1	5/29/80	7	45	0.0025	4826	99	99	98	98	94	90	84	76	64	54	41	20
1	5/29/80	7	50	0.0068	5680	99	99	98	98	96	92	84	74	62	51	37	19
1	5/29/80	7	55	0.0054	3991	99	99	98	98	97	95	92	85	73	64	48	26
1	5/29/80	8	0	0.0023	2821	100	100	100	100	98	96	93	87	78	69	55	32
1	5/29/80	8	5	0.0011	1832	100	100	100	100	100	99	98	95	89	83	70	43
1	5/29/80	8	35	0.0930	25047	99	97	95	85	66	56	43	34	27	20	14	5
1	5/29/80	8	39	0.1026	9885												
1	5/29/80	8	44	0.1880	17821	100	100	99	95	83	75	65	50	44	36	25	12
1	5/29/80	8	49	0.0953	9647												
1	5/29/80	8	49	0.0953	8566												
1	5/29/80	8	54	0.0334	6625	100	99	99	98	93	87	80	69	58	47	34	16
1	5/29/80	9	2	0.0095	5340												
1	5/29/80	9	7	0.0036	2955	100	100	99	98	91	85	76	66	56	48	35	19
1	5/30/80	1	37	0.0033	6579	99	99	99	97	97	96	92	86	80	69	60	47	26
1	5/30/80	1	42	0.0023	4337	100	100	98	98	98	96	90	83	73	64	50	28
1	5/30/80	1	47	0.0018	3418	99	99	99	99	98	97	93	88	78	69	55	31
1	5/30/80	1	52	0.0011	2629	100	100	100	100	99	99	97	93	86	79	64	37
1	5/30/80	1	57	0.0006	2168	99	99	99	99	97	96	92	88	82	76	66	41
1	6/ 2/80	17	7	0.2409	28317	100	100	100	93	76	66	53	46	36	27	19	9
1	6/ 2/80	17	9	0.2246	27038	99	99	96	91	77	67	56	46	36	28	20	8
1	6/ 2/80	17	18	0.1676	8993	99	99	98	97	90	84	74	63	50	38	26	11
1	6/ 2/80	17	23	0.1687	6803	99	98	98	95	86	78	68	60	46	37	25	10
1	6/ 2/80	17	26	0.1710	10821	99	98	97	90	75	66	55	45	34	27	16	6
1	6/ 2/80	17	27	0.1778	8790	97	96	95	90	78	69	58	50	38	30	20	9
1	6/ 2/80	17	29	0.1733	8448	97	96	95	90	78	69	58	50	38	30	20	9
1	6/ 2/80	17	35	0.1360	5645	99	99	99	97	88	81	70	60	46	36	24	9
1	6/ 2/80	17	36	0.1215	5925	100	100	98	95	86	79	69	58	46	35	24	10
1	6/ 2/80	17	40	0.0764	4830	99	98	97	96	89	83	74	65	52	43	30	13
1	6/ 2/80	17	45	0.0409	3839	100	100	100	97	89	81	72	63	50	41	30	12
1	6/ 2/80	17	47	0.0307	3196	99	99	99	96	92	86	77	70	58	50	36	16
1	6/ 2/80	17	49	0.0245	2949	97	97	97	95	88	83	76	69	58	48	35	16
1	6/ 2/80	17	55	0.0111	2756	99	99	98	95	89	82	75	68	58	49	37	17
1	6/ 2/80	18	0	0.0075	2507												
1	6/ 2/80	18	5	0.0103	4258	99	97	96	91	81	70	58	48	38	30	22	9
1	6/ 2/80	18	11	0.0117	2879	100	100	99	97	94	90	82	75	62	51	37	17
1	6/ 6/80	18	54	0.0095	10325	100	100	99	97	91	83	72	61	46	36	24	11
1	6/ 6/80	19	2	0.0127	5924	100	99	99	98	97	94	90	82	70	60	43	20
1	6/ 7/80	5	11	0.0362	7250												
1	6/ 7/80	5	17	0.0213	4000	99	99	99	98	95	93	86	79	67	56	41	19
1	6/ 7/80	5	23	0.0095	3102	99	99	98	95	87	79	67	59	46	36	22	6
1	6/13/80	21	48	0.0036	5479	99	99	99	98	97	93	86	78	65	54	40	20
1	6/13/80	21	54	0.0015	3184	99	99	99	97	95	92	87	81	69	58	42	21
1	6/15/80	3	33	0.0075	6684	99	99	99	98	94	91	85	78	67	58	42	22
1	6/15/80	3	48	0.0023	3770	100	100	100	99	96	92	86	78	68	60	46	24
1	6/15/80	3	59	0.0019	2991	100	99	99	98	97	95	91	85	76	67	53	28

TABLE E1- 8. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1980 SITE 2

						EQUIVALENT SPHERICAL DIAMETER (MICRONS)											
						50	40	32	24	16	12	8	6	4	3	2	1
SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	PERCENT FINER THAN											
2	3/15/80	10	30	0.0037	3447	97	93	86	68	49	42	34	30	22	18	13	6
2	3/15/80	12	0	0.0100	6555	99	97	92	78	62	52	43	35	28	23	15	5
2	3/15/80	13	0	0.0524	5110	99	97	88	53	30	26	21	17	12	8	4	0
2	3/15/80	16	0	0.0380	8277	100	97	88	68	45	38	31	25	17	14	6	0
2	5/29/80	7	37	0.0469	9877	99	99	98	95	74	61	48	39	28	21	13	5
2	5/29/80	7	39	0.2493	17240	100	98	95	82	62	53	43	35	24	18	11	5
2	5/29/80	7	41	0.2367	13884	100	99	97	92	78	68	58	46	33	26	16	8
2	5/29/80	7	43	0.1812	10958	100	100	98	92	77	69	57	47	34	26	17	7
2	5/29/80	7	45	0.1269	8874	100	100	99	97	90	81	72	60	45	37	24	12
2	5/29/80	7	47	0.1000	7753	100	99	99	95	82	74	63	53	38	28	18	8
2	5/29/80	7	49	0.0837	6794												
2	5/29/80	7	51	0.0765	6007	100	100	100	99	95	90	80	70	55	45	31	16
2	5/29/80	7	53	0.0714	5702	100	100	100	99	96	91	84	75	60	49	35	18
2	5/29/80	7	55	0.0629	5460	100	100	99	98	95	89	79	70	55	44	31	15
2	5/29/80	7	57	0.0560	4771												
2	5/29/80	7	59	0.0557	4523	100	100	99	95	85	77	66	59	45	36	26	14
2	5/29/80	8	1	0.0494	4217	100	100	100	99	89	81	70	61	47	36	22	8
2	5/29/80	8	8	0.0321	3170												
2	5/29/80	8	13	0.0160	2425	100	99	99	99	97	93	88	82	67	56	38	17
2	5/29/80	8	18	0.0095	2062	100	100	100	99	94	88	80	73	62	50	34	16
2	5/29/80	8	23	0.0070	1801	99	99	98	98	95	92	87	80	68	58	41	18
2	5/29/80	8	28	0.0047	11145												
2	5/29/80	8	33	0.1574	3797												
2	5/29/80	8	35	0.8325	27196	100	99	96	83	61	49	38	29	19	13	7	0
2	5/29/80	8	37	1.2567	46368	98	96	89	70	48	40	32	25	18	15	10	6
2	5/29/80	8	39	1.2241	44722	97	95	91	78	53	44	34	27	20	15	10	4
2	5/29/80	8	41	1.0817	30174	100	99	98	91	71	60	49	30	29	23	15	7
2	5/29/80	8	43	0.8070	19401	99	98	98	93	81	71	60	49	38	30	21	10
2	5/29/80	8	45	0.5250	17423	99	98	96	87	63	52	41	34	23	17	10	2
2	5/29/80	8	47	0.2938	14776	98	97	95	85	70	61	52	42	31	25	16	6
2	5/29/80	8	49	0.1574	12450	99	98	97	89	74	66	56	48	37	29	20	7
2	5/29/80	8	51	0.0976	9612												
2	5/29/80	8	53	0.0589	7729												
2	5/29/80	8	55	0.0402	4840	99	98	97	87	74	68	60	53	42	33	21	8
2	5/29/80	9	5	0.0095	3456	99	98	96	91	80	77	72	66	56	48	34	16
2	5/29/80	9	10	0.0052	2592	98	98	95	87	77	73	69	65	58	50	38	20
2	5/29/80	9	40	0.0004	3642	100	100	99	97	87	81	70	62	50	42	30	14
2	5/29/80	9	45	0.0005	6158	100	100	100	97	88	82	73	65	53	43	30	14
2	5/30/80	1	33	0.0171	15791	100	99	98	92	76	70	60	51	39	30	20	10
2	5/30/80	1	38	0.0375	13195	100	99	97	93	81	73	63	54	41	32	22	10
2	5/30/80	1	40	0.0419	12141	99	99	99	94	82	74	64	55	42	33	24	11
2	5/30/80	1	42	0.0485	9147												
2	5/30/80	1	44	0.0452	7507	99	98	98	96	89	82	73	65	50	40	28	12
2	5/30/80	1	48	0.0321	5642	100	100	99	97	91	87	80	72	58	48	34	16
2	5/30/80	1	54	0.0160	4077	99	99	99	96	92	87	79	71	58	47	33	15
2	5/30/80	1	59	0.0103	3250	100	99	99	98	95	91	86	80	68	58	42	19
2	5/30/80	2	4	0.0066	2723	99	99	98	95	89	86	81	77	67	59	45	22
2	5/30/80	2	9	0.0041	2161	100	99	98	95	90	87	81	74	64	53	40	20
2	5/30/80	2	14	0.0023	1961	100	100	99	95	89	85	80	74	67	59	45	24
2	6/ 2/80	17	2	0.8240	25897	99	99	94	84	64	54	43	33	23	17	10	2
2	6/ 2/80	17	4	0.9951	36151	100	100	96	83	63	51	41	31	22	16	9	2

TABLE E1- 8. CONTINUED

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
2	6/ 2/80	17	6	0.9758	28573	99	99	97	87	70	59	46	38	27	20	12	3
2	6/ 2/80	17	8	0.8070	24923	99	99	97	92	78	68	55	44	33	24	15	4
2	6/ 2/80	17	10	0.6003	20598	99	99	97	89	73	62	51	41	29	21	13	3
2	6/ 2/80	17	13	0.3681	15802	98	97	94	86	70	61	50	40	28	21	14	3
2	6/ 2/80	17	15	0.3375	13516	98	97	94	87	72	65	51	41	30	23	12	3
2	6/ 2/80	17	17	0.3528	11769	98	96	94	85	70	60	50	38	27	21	10	2
2	6/ 2/80	17	19	0.3843	11609	100	99	96	89	72	64	52	42	31	24	15	5
2	6/ 2/80	17	21	0.4112	12578	99	98	96	89	73	63	51	42	30	22	14	4
2	6/ 2/80	17	24	0.4112	11604	100	99	97	89	72	63	52	41	31	24	15	5
2	6/ 2/80	17	26	0.4165	11292	99	98	95	90	70	60	49	39	28	21	14	4
2	6/ 2/80	17	28	0.4635	12825	99	98	94	83	65	54	43	35	24	18	10	3
2	6/ 2/80	17	30	0.4695	13240	99	98	96	87	73	63	52	41	30	23	13	4
2	6/ 2/80	17	32	0.4165	11433	99	98	94	84	67	58	47	38	26	20	10	2
2	6/ 2/80	17	35	0.3078	9411	100	99	97	89	73	64	52	43	31	24	15	5
2	6/ 2/80	17	37	0.2246	8365	100	98	96	88	74	66	54	44	33	25	16	6
2	6/ 2/80	17	39	0.1676	7118	99	98	96	90	78	69	59	50	38	30	20	6
2	6/ 2/80	17	41	0.1299	6142	99	97	95	87	71	64	55	45	33	26	16	6
2	6/ 2/80	17	43	0.1053	5708	100	99	96	86	72	64	55	46	36	28	18	6
2	6/ 2/80	17	46	0.0569	4955	100	99	94	84	71	62	53	45	35	27	17	5
2	6/ 2/80	17	51	0.0321	4792	100	98	95	86	72	64	56	48	39	32	24	9
2	6/ 2/80	17	56	0.0172	3765	97	96	93	86	74	68	60	53	43	35	25	9
2	6/ 2/80	18	1	0.0117	3150	99	99	95	88	76	67	60	52	42	34	24	11
2	6/ 2/80	18	7	0.0202	4874	100	100	98	91	77	67	56	46	35	27	18	8
2	6/ 2/80	18	12	0.0519	7318	100	100	97	88	72	61	51	42	31	24	15	6
2	6/ 2/80	18	14	0.0511	6071	100	99	96	90	76	68	57	48	36	28	18	6
2	6/ 2/80	18	16	0.0436	5031	99	99	96	90	78	70	61	51	40	32	21	9
2	6/ 2/80	18	19	0.0341	4266	96	95	91	84	72	66	56	48	37	30	21	5
2	6/ 2/80	18	24	0.0256	3340	99	97	95	89	79	70	61	53	42	35	24	10
2	6/ 6/80	18	51	0.0181	6516												
2	6/ 6/80	18	55	0.0748	15549	100	99	99	95	83	72	60	49	36	28	19	7
2	6/ 6/80	18	56	0.0728	20381	99	99	98	93	79	69	57	45	34	25	16	5
2	6/ 6/80	18	57	0.0688	28549												
2	6/ 6/80	18	59	0.0536	19860	100	99	98	93	80	71	59	48	35	26	18	6
2	6/ 6/80	19	1	0.0402	17123	100	99	99	96	89	80	70	59	44	34	23	9
2	6/ 6/80	19	5	0.0436	10455												
2	6/ 6/80	19	8	0.0375	11784	100	100	99	95	83	75	63	53	41	33	22	10
2	6/ 6/80	19	10	0.0280	8925	100	99	99	96	87	80	70	60	46	35	24	9
2	6/ 6/80	19	20	0.0047	5272												
2	6/ 7/80	5	3	0.0814	27627												
2	6/ 7/80	5	5	0.1053	20319	100	100	99	93	77	67	56	46	34	26	17	6
2	6/ 7/80	5	7	0.1053	23226												
2	6/ 7/80	5	9	0.0930	14968												
2	6/ 7/80	5	11	0.0748	15475	100	100	97	86	64	55	45	37	26	17	9	1
2	6/ 7/80	5	14	0.0791	15528	99	99	98	92	80	72	61	51	37	29	18	7
2	6/ 7/80	5	16	0.0688	14174												
2	6/ 7/80	5	18	0.0519	11900	98	97	96	90	79	71	62	51	38	29	17	5
2	6/ 7/80	5	20	0.0389	8877	100	99	98	94	86	80	70	60	46	37	24	9
2	6/ 7/80	5	26	0.0160	7352	100	100	99	93	83	78	68	59	45	36	23	9
2	6/ 7/80	5	38	0.0025	3918	99	98	96	93	82	78	71	65	55	45	32	14
2	6/13/80	21	34	0.0402	17523	100	100	98	95	82	72	58	46	32	23	14	4
2	6/13/80	21	37	0.0609	17292	100	100	100	91	75	63	50	39	26	19	11	3

TABLE E1- 8. CONCLUDED

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
2	6/13/80	21	39	0.0930	17765	100	100	97	88	71	61	47	37	25	18	11	2
2	6/13/80	21	42	0.1269	19760	98	98	97	93	78	64	50	39	27	19	12	3
2	6/13/80	21	44	0.1284	18225	100	100	100	95	80	70	56	45	34	26	17	6
2	6/13/80	21	47	0.1330	15109	100	100	98	90	73	64	51	41	29	21	13	3
2	6/13/80	21	49	0.1360	12717	99	98	96	89	72	62	50	39	25	18	10	0
2	6/13/80	21	52	0.1188	10814	100	99	96	89	74	65	52	41	28	19	10	1
2	6/13/80	21	54	0.0976	7484	100	99	98	93	80	70	58	45	32	23	14	4
2	6/13/80	21	57	0.0668	9683	99	98	96	90	77	68	55	45	32	24	15	4
2	6/13/80	21	59	0.0519	9201	98	98	96	88	79	64	52	42	29	21	13	3
2	6/13/80	22	2	0.0361	7048	99	99	98	93	81	73	61	49	35	25	15	4
2	6/13/80	22	8	0.0136	5861	100	100	98	94	81	74	61	51	37	27	16	4
2	6/13/80	22	14	0.0049	4518	98	96	95	87	75	67	58	47	35	26	15	3
2	6/13/80	22	20	0.0025	4652												
2	6/15/80	3	22	0.0767	31608	100	99	98	92	73	59	45	34	23	17	10	1
2	6/15/80	3	25	0.2620	28970	99	98	95	84	64	52	40	31	23	17	10	3
2	6/15/80	3	28	0.3324	22148	100	99	98	94	80	70	56	45	31	24	15	5
2	6/15/80	3	31	0.2938	17460												
2	6/15/80	3	34	0.2985	14606	100	100	99	97	90	78	61	47	33	24	14	3
2	6/15/80	3	37	0.2209	12710	100	100	98	91	75	64	51	39	26	18	10	0
2	6/15/80	3	40	0.1544	10478	100	98	97	90	75	65	53	43	31	24	15	5
2	6/15/80	3	43	0.1000	9740	99	98	97	96	87	76	64	51	37	26	16	4
2	6/15/80	3	46	0.0688	8561	100	99	96	85	69	60	50	40	30	22	13	4
2	6/15/80	3	49	0.0469	7744	99	98	98	95	84	76	64	53	40	32	20	7
2	6/15/80	3	52	0.0361	4970												
2	6/15/80	3	58	0.0202	4661	99	99	99	98	95	90	80	71	59	48	34	15
2	6/15/80	4	6	0.0068	4890	100	100	99	98	89	81	71	61	48	38	27	11
2	6/15/80	4	14	0.0036	3514												
2	8/ 6/80	1	58	0.0103	6322	99	99	95	64	35	29	22	17	9	6	2	0
2	8/ 6/80	2	5	0.0192	3223	99	98	94	71	49	42	34	26	16	10	5	0
2	8/ 6/80	2	10	0.0224	1936	100	99	93	71	50	42	33	25	13	7	2	0
2	8/11/80	4	35	0.0708	2751	100	100	94	76	52	44	36	28	17	12	6	0
2	8/11/80	4	39	0.0802	2813	97	95	94	82	60	52	44	35	25	18	9	1

TABLE E1- 9. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1980 SITE 4

						EQUIVALENT SPHERICAL DIAMETER (MICRONS)											
						50	40	32	24	16	12	8	6	4	3	2	1
SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	PERCENT FINER THAN											
4	3/15/80	14	4	6.3411	7288	100	96	84	61	42	34	26	21	15	11	7	1
4	3/15/80	17	40	16.8107	7957	96	92	83	57	39	33	27	23	17	13	9	4
4	3/15/80	21	36	14.1195	4044	98	92	79	59	43	37	30	26	20	15	10	4
4	3/16/80	2	0	3.7095	3185	100	99	93	75	49	40	34	27	22	17	11	1
4	5/29/80	11	44	6.3131	27431	100	99	97	88	70	60	49	41	30	24	15	5
4	5/29/80	13	0	31.4480	17975	99	98	96	92	82	73	63	54	41	33	23	10
4	5/29/80	13	50	44.6563	10503	98	97	96	93	87	81	73	64	52	42	32	17
4	5/29/80	14	57	33.3260	7390	100	98	96	92	85	82	74	66	52	43	32	14
4	5/29/80	16	7	20.6872	5723	99	97	96	93	87	83	78	72	60	51	37	17
4	5/29/80	18	29	9.7701	3266	100	99	98	94	86	80	72	65	55	47	37	20
4	5/30/80	7	32	4.4046	6537	100	100	99	96	89	81	70	60	48	40	30	15
4	5/30/80	9	52	2.2525	3374	100	100	100	98	94	88	80	70	57	47	35	18
4	6/ 2/80	17	50	1.3557	3192	100	99	98	94	78	64	50	42	31	24	17	7
4	6/ 2/80	18	52	10.8262	3120	100	98	95	84	67	60	51	42	32	25	17	7
4	6/ 2/80	20	11	17.6742	7326	100	98	91	76	52	40	30	24	17	12	6	1
4	6/ 2/80	21	6	16.7226	11530	99	98	96	91	78	67	57	48	36	28	20	7
4	6/ 2/80	21	49	17.5802	10872	100	98	94	78	50	40	31	23	13	8	3	0
4	6/ 2/80	22	43	19.3185	5440	100	99	98	94	85	80	70	60	47	37	26	12
4	6/ 3/80	1	20	17.4560	1913												
4	6/ 7/80	12	6	2.0560	3972	100	99	98	96	90	82	70	59	43	32	19	7
4	6/ 7/80	15	27	1.3936	2665	100	100	99	97	95	93	85	77	63	51	35	13
4	6/14/80	4	34	1.5230	3103	100	100	99	98	94	88	76	65	50	40	27	12
4	6/15/80	6	35	1.7340	4423	100	100	99	94	80	68	55	45	33	26	17	7
4	6/15/80	8	53	4.6505	10532	100	100	99	95	82	72	58	46	33	25	15	4
4	6/15/80	12	25	1.6345	2919	100	100	99	98	90	83	72	62	47	37	24	9
4	8/ 6/80	3	5	21.4169	4805	97	96	94	89	72	62	51	42	32	26	18	9
4	8/ 6/80	3	57	17.6357	6488	100	100	97	88	70	59	49	40	30	24	16	7
4	8/ 6/80	8	7	3.1564	2289	100	100	98	95	83	75	65	56	43	35	24	12
4	8/11/80	7	46	1.9237	6541	100	100	100	98	89	81	69	60	47	39	29	16
4	8/11/80	9	47	2.0388	2402												
4	8/11/80	11	41	1.9614	3446	99	99	99	97	90	85	76	67	54	46	34	18

TABLE E1-10. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1980 SITE 5

						EQUIVALENT SPHERICAL DIAMETER (MICRONS)											
						50	40	32	24	16	12	8	6	4	3	2	1
SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	PERCENT FINER THAN											
5	3/15/80	14	20	5.1631	5446	99	97	88	61	41	35	30	26	20	16	11	5
5	3/15/80	17	54	13.7676	5223	100	99	93	74	51	45	40	35	29	24	17	8
5	4/15/80	4	42	0.1642	8444												
5	5/28/80	22	11	0.0510	9718	100	100	99	94	77	64	51	42	32	27	18	6
5	5/29/80	7	51	0.1897	4962	99	98	98	96	94	91	84	77	65	56	42	21
5	5/29/80	9	10	0.2794	42240	99	98	93	78	56	47	36	28	20	16	10	3
5	5/29/80	10	10	11.9969	23964	98	98	97	92	80	71	59	49	37	28	19	8
5	5/29/80	11	19	22.4949	14578	100	100	99	97	91	84	74	64	49	40	27	12
5	5/29/80	12	43	22.9479	6589	99	99	99	99	98	96	90	83	70	60	45	23
5	5/29/80	14	5	17.5659	5142	100	99	99	98	95	91	84	78	66	53	41	20
5	5/29/80	14	5	17.5659	3220	100	99	98	92	78	70	62	55	44	35	23	9
5	5/29/80	15	15	6.6261	3898	100	100	100	98	92	86	77	70	59	51	39	21
5	5/29/80	16	28	3.0582	2262	98	97	96	91	80	71	63	54	43	36	26	13
5	5/29/80	18	19	1.9671	1697	99	98	97	93	79	70	60	51	40	33	24	12
5	5/29/80	22	8	1.4857	28555	99	99	98	94	84	75	66	56	45	37	27	15
5	5/30/80	7	52	2.0992	2162	99	99	98	96	88	81	72	64	52	44	32	16
5	6/ 2/80	18	34	4.5288	22817	100	99	99	98	92	87	78	67	54	45	31	14
5	6/ 2/80	19	31	23.2330	9908	100	98	98	93	77	70	59	49	37	29	21	9
5	6/ 2/80	20	41	24.9773	6149	100	100	100	98	94	88	80	70	58	46	34	17
5	6/ 2/80	21	27	22.6987	4686	99	99	98	97	90	85	76	67	56	44	32	16
5	6/ 2/80	22	58	18.6759	2687	99	99	98	97	94	90	83	76	64	53	39	21
5	6/ 3/80	1	2	3.0695	2018	100	100	100	96	85	76	66	58	47	40	31	16
5	6/ 7/80	6	52	1.1950	4148	100	98	95	83	55	43	32	24	15	10	5	0
5	6/ 7/80	9	29	2.1502	9021	100	100	98	90	69	57	45	34	20	12	5	0
5	6/ 7/80	12	24	1.0647	2615	100	99	98	97	94	90	82	72	58	49	35	16
5	6/13/80	23	10	0.5380	5010	100	100	100	98	87	75	60	48	35	26	17	7
5	6/14/80	4	21	0.7985	2851	100	99	99	98	94	89	79	69	55	44	31	12
5	6/15/80	0	55	0.3398	7928	100	100	100	98	90	79	64	53	36	26	16	4
5	6/15/80	6	50	4.6440	7839	100	100	99	97	89	81	70	60	47	37	25	11
5	6/15/80	9	9	1.6254	3599	100	100	99	96	85	75	66	56	45	37	26	12
5	8/ 6/80	2	50	3.1337	6495	99	99	98	95	82	70	56	45	33	26	17	7
5	8/ 6/80	3	41	2.3031	3060	100	100	100	97	80	66	54	44	32	26	18	8
5	8/ 6/80	5	15	2.7184	4039												
5	8/ 6/80	7	51	0.6796	1288	99	99	98	97	97	95	87	77	62	51	37	18
5	8/11/80	8	1	2.4296	4796	100	99	99	96	86	80	69	58	47	40	28	14

TABLE E1-11. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1980 SITE 6

						EQUIVALENT SPHERICAL DIAMETER (MICRONS)											
						50	40	32	24	16	12	8	6	4	3	2	1
SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	PERCENT FINER THAN											
6	3/15/80	11	19	0.0595	3333	97	93	81	53	34	29	24	20	15	12	8	3
6	3/15/80	14	14	0.1388	6290	100	98	92	68	39	33	28	24	20	16	12	6
6	3/15/80	17	49	0.1614	5254	98	96	87	64	45	39	34	29	23	19	13	7
6	5/29/80	7	56	0.0	25990	99	98	97	88	73	65	54	46	36	29	20	10
6	5/29/80	9	4	0.0	6507	99	99	98	96	89	83	75	65	52	44	31	15
6	5/29/80	10	16	0.0	4469	100	99	98	98	94	89	80	69	54	44	30	14
6	5/29/80	10	16	0.0	3414	100	99	98	97	94	89	79	69	56	44	32	15
6	6/ 2/80	17	33	0.0	16532	99	96	89	72	52	45	37	29	21	15	9	1
6	6/ 2/80	18	40	0.0	5655												
6	6/ 2/80	20	1	0.0	1870	98	97	97	92	80	71	62	53	44	38	29	14
6	6/ 6/80	19	45	0.0	63290												
6	6/13/80	23	15	0.0	3746	100	100	99	98	93	87	77	68	55	45	32	15
6	6/15/80	4	49	0.0	5209	100	100	98	90	77	70	62	56	45	39	28	12
6	8/ 6/80	2	53	2.2937	3588	99	97	95	84	66	57	47	41	31	25	17	7
6	8/11/80	5	49	0.6286	4962	100	100	98	89	72	65	55	46	36	30	22	10
6	8/11/80	6	18	0.3794	3261	100	99	96	90	79	71	61	54	42	35	25	12
6	8/11/80	6	51	0.2322	2222												

TABLE E1-12. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1980 SITE 7

						EQUIVALENT SPHERICAL DIAMETER (MICRONS)											
						50	40	32	24	16	12	8	6	4	3	2	1
SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	PERCENT FINER THAN											
7	5/27/80	19	58	0.1518	8235												
7	5/27/80	20	13	0.0906	6236												
7	5/27/80	20	28	0.0648	4139												
7	5/27/80	20	43	0.0453	3262												
7	5/27/80	20	57	0.0376	3143												
7	5/29/80	10	2	0.6966	24738												
7	5/29/80	10	57	0.3982	4595												
7	5/29/80	11	20	0.2873	2903												
7	5/29/80	11	44	0.2376	3245												
7	5/29/80	12	14	0.1867	2166												
7	6/ 2/80	17	20	7.1246	11010	98	98	97	92	82	73	63	52	40	32	22	11
7	6/ 2/80	17	45	6.8668	6999	100	100	99	95	87	78	66	56	43	34	24	11
7	6/ 2/80	18	15	4.1588	9020												
7	6/ 2/80	19	0	0.3769	5088												
7	6/ 2/80	19	23	0.2724	3146	100	97	93	81	65	57	49	42	33	27	19	10
7	6/ 2/80	20	24	0.1890	1779	100	99	98	92	83	78	69	63	53	44	32	16

TABLE E1-13. PARTICLE SIZE DATA FOR SEDIMENT IN TRANSPORT FOR 1980 SITE 8

SITE	DATE	HOUR	MIN	FLOW RATE CMS	CONC PPM	EQUIVALENT SPHERICAL DIAMETER (MICRONS) 50	40	32	24	16	12	8	6	4	3	2	1
						PERCENT FINER THAN											
8	1/16/80	17	30	0.1713	2087												
8	3/15/80	14	17	0.7973	5838	100	100	95	83	66	58	50	44	36	31	24	14
8	3/15/80	15	0	0.6996	4221												
8	3/15/80	16	0	0.6022	3697												
8	3/15/80	17	30	0.3996	2707												
8	5/29/80	7	50	0.6708	5.625	99	99	95	83	56	44	31	23	15	9	5	0
8	5/29/80	7	55	0.7511	52687	99	98	95	87	67	56	43	33	22	16	10	3
8	5/29/80	8	0	0.6937	36314	99	98	97	92	79	69	57	47	35	27	17	7
8	5/29/80	8	10	0.4454	26123	100	100	99	93	84	73	61	50	35	28	17	6
8	5/29/80	8	20	0.2262	13223	99	99	98	97	91	84	74	63	50	39	27	13
8	5/29/80	8	30	0.3667	7010	100	99	99	98	94	89	80	70	57	47	34	18
8	5/29/80	8	35	6.3104	92470	98	96	81	43	19	14	10	7	4	3	1	0
8	5/29/80	8	40	8.4130	68922	99	97	85	52	24	17	12					
8	5/29/80	8	45	5.6251	37044	99	98	95	85	69	58	46	38	28	22	15	6
8	5/29/80	8	50	2.3673	34277												
8	5/29/80	8	55	1.6259	17884	99	97	95	88	75	68	57	49	38	31	21	10
8	5/29/80	9	0	1.2601	13830	100	99	99	94	85	77	66	57	45	36	26	13
8	5/29/80	9	10	0.6732	12790	100	99	98	94	83	75	66	57	45	37	27	14
8	6/ 2/80	17	30	6.2722	14363	99	97	93	84	68	61	52	44	35	28	19	9
8	6/ 2/80	17	35	6.3090	12819	99	99	96	90	76	68	57	48	38	31	22	10
8	6/ 2/80	17	50	2.0282	9760	99	98	94	85	71	63	52	46	36	29	20	9
8	6/ 2/80	17	55	1.7075	8271	98	97	96	91	80	71	62	53	42	35	25	12
8	6/ 2/80	18	20	1.1497	3999	100	98	94	85	69	62	55	48	40	34	25	13
8	6/ 6/80	19	27	0.1379	9083	99	99	98	96	92	85	72	63	47	37	24	10
8	6/ 6/80	19	32	0.1214	8187	99	99	98	98	93	88	76	66	52	42	28	12
8	6/ 7/80	5	30	0.6708	10080	100	100	100	98	90	84	74	65	53	45	33	16
8	6/ 7/80	5	45	0.2247	10460	100	99	99	96	90	85	76	67	55	46	34	17
8	6/ 7/80	6	0	0.1145	5957	100	100	100	98	92	87	81	74	63	52	39	18
8	6/ 7/80	6	15	0.0691	5259	100	100	100	97	93	88	83	76	63	53	37	16
8	6/ 7/80	6	30	0.0518	3574	99	99	98	98	96	92	87	84	74	65	50	23
8	6/ 7/80	6	45	0.0382	2344												
8	6/ 7/80	7	0	0.0291	1959	100	100	100	100	99	97	94	90	83	77	62	34
8	6/13/80	22	0	0.3499	13521	99	98	97	95	87	79	68	58	45	38	27	13
8	6/13/80	22	15	0.1323	10969												
8	6/13/80	22	30	0.0571	7707	100	100	100	98	94	88	78	68	54	44	31	15
8	6/13/80	22	45	0.0501	4915	100	99	99	99	95	90	82	75	60	50	36	18
8	6/13/80	23	0	0.0369	4087	100	100	100	99	96	93	87	80	68	57	41	20
8	6/13/80	23	15	0.0172	3108	100	100	99	99	97	96	91	86	77	67	51	25
8	6/13/80	23	30	0.0143	2423	100	100	100	100	99	96	94	89	80	71	54	27
8	6/13/80	23	45	0.0148	2200	100	99	99	98	96	96	92	89	82	74	60	32
8	6/15/80	4	0	0.7684	11852	100	100	99	98	88	81	69	50	44	36	24	9
8	6/15/80	4	15	0.4918	7441	100	100	99	98	95	89	81	71	56	46	32	15
8	6/15/80	4	30	0.2080	5796	100	100	100	98	90	83	73	64	50	41	30	13
8	6/15/80	4	45	0.0878	4241	100	100	100	99	92	85	77	68	55	46	33	15
8	6/15/80	5	0	0.0643	3508	100	100	100	98	91	86	79	71	62	51	49	19
8	6/15/80	5	15	0.0474	2143	99	99	99	97	93	89	83	78	69	61	48	25
8	8/ 6/80	2	50	0.4786	2859	100	100	99	99	96	92	83	72	57	47	34	17
8	8/11/80	5	0	0.5610	6044	99	99	99	98	90	81	68	58	45	37	27	15
8	8/11/80	5	30	0.5610	3641	99	99	99	99	97	93	85	76	63	54	41	24
8	8/11/80	5	45	0.4845	2611	99	99	99	98	98	95	89	82	71	61	47	25

TABLE E2-1. SEDIMENT DISC DEPOSITION

Date	Site 1			Site 2		
	Sediment disc no.	Dry weight/ area, kg/m^2	% finer than 62 µm	Sediment disc no.	Dry weight/ area, kg/m^2	% finer than 62 µm
6/12/79	1	36.3*	98	1	64.3*	97
	2		99	2		99
	3		98	3		98
	4		99	4		99
	5		98	5		100
	6		96	6		95
	7		98	7		99
	8		94	8		97
	9		96	9		99
	10		95	10		97
6/27/79	1	--†	97	1	--†	89
	2	--	95	2	--	--
	3	--	--	3	--	95
	4	--	100	4	--	--
	5	--	98	5	--	96
	6	--	99	6	--	97
	7	--	95	7	--	--
	8	--	98	8	--	84
	9	--	99	9	--	94
	10	--	--	10	--	98
7/3/79 (AM)	*	56.6	--	*	140.0	--
(PM)	8	3.4	98	9	11.6	100
7/13/79-7/14/79	5	54.4	--	4	42.0	--
8/19/79	6	12.1	99		No deposition	
8/21/79	9	13.3	98		No deposition	

*Data are for a representative sample taken from the deposition area.

†Data are not available.

TABLE E2-1 (continued).

Date	Site 1			Site 2		
	Sediment disc no.	Dry weight/ area kg/m^2	% finer than 62 µm	Sediment disc no.	Dry weight/ area kg/m^2	% finer than 62 µm
5/29/80	Negligible deposition			1	21.4	98
				2	--	--
				3	10.9	93
				4	7.6	89
				5	--	--
				6	15.4	98
				7	16.9	97
				8	8.1	92
				9	--	--
				10	18.6	98
				11	3.8	93
				12	9.8	92
6/2/80	Negligible deposition			1	35.7	97
				2	33.0	98
				3	5.7	97
				4	11.3	98
				5	22.8	98
				6	10.0	89
				7	15.3	98
				8	14.5	97
				9	6.6	90
				10	6.8	99
				11	26.5	98
				12	7.3	98
6/6/80-6/7/80	Negligible deposition			7	22.0	98
				8	3.6	99
6/13/80& 6/15/80	Negligible deposition			9	14.2	99

TABLE E2-1 (continued).

Date	Site 1			Site 2		
	Sediment disc no.	Dry weight/ area, kg/m^2	% finer than 62 µm	Sediment disc no.	Dry weight/ area, kg/m^2	% finer than 62 µm
8/6/80 & 8/11/80	7	9.8	99	Negligible deposition		
	8	4.4	98			
	9	3.8	99			

TABLE E3-1. SEDIMENT DEPOSITION SURVEY DATA, SITE 1

Cross section†	1976 Survey* Station§ m	1976 Survey* Elevation m	Fall 1979 Survey Station m	Fall 1979 Survey Elevation m
1	4.3	30.8	7.3	31.1
	10.1	30.5	7.3	30.3
	15.8	30.2	8.5	30.3
	22.9∞	29.9	13.1	30.2
	31.1	30.2	20.7	30.2
	37.8	30.5	25.0	30.3
	44.8	30.8	28.3	30.4
	47.2	31.1	36.0	30.5
	55.5	31.7	43.6	30.8
			51.2	31.3
2	1.2	31.1	5.5	30.6
	6.7	30.8	13.1	30.4
	12.8	30.5	20.7	30.3
	18.9	30.2	25.0	30.4
	22.9∞	30.1	28.3	30.4
	26.8	30.2	36.0	30.6
	33.2	30.5	43.6	30.9
	41.8	30.8	51.2	31.3
	45.1	31.1		
	54.3	31.7		
3	0.0	31.7	5.5	30.8
	4.3	31.1	13.1	30.5
	9.8	30.8	20.7	30.4
	15.5	30.5	25.0	30.4
	22.9∞	30.2	28.3	30.4
	31.1	30.5	36.0	30.6
	39.0	30.8	43.6	30.9
	43.9	31.1		
	52.4	31.7		

*1976 survey data are based on a 30 m grid survey made during the summer of 1976.

†Flume inlet is 0+00 with cross sections numbered with increasing distance upslope from the flume. Distance between cross sections is 7.62 m.

§Stations are measured relative to a centerline projected upslope from the flume centerline. The centerline station is 22.9 m for all cross sections with 0 m being to the left of center as viewed looking upslope from the flume.

∞Indicates the centerline of the flume as projected upslope.

TABLE E3-1 (continued).

Cross section	1976 Survey Station m	1976 Survey Elevation m	Fall 1979 Survey Station m	Fall 1979 Survey Elevation m
4	1.5	31.7	5.2	31.1
	7.6	31.1	12.8	30.6
	12.8	30.8	20.4	30.5
	17.7	30.5	24.7	30.4
	22.9[∞]	30.3	28.0	30.5
	29.6	30.5	35.7	30.7
	36.6	30.8	43.3	30.9
	42.1	31.1		
	50.3	31.7		
5	2.1	31.7	3.0	31.4
	8.5	31.1	10.7	30.8
	14.6	30.8	18.3	30.6
	19.8	30.5	22.6	30.6
	22.9[∞]	30.4	25.9	30.6
	24.4	30.5	33.5	30.7
	33.5	30.8	41.1	31.0
	39.3	31.1		
	47.2	31.7		
6	2.4	31.7	7.9	31.1
	10.4	31.1	15.5	30.7
	16.2	30.8	19.8	30.7
	22.9[∞]	30.6	23.2	30.7
	30.2	30.8	30.8	31.0
	36.0	31.1	38.4	31.1
	44.2	31.7		
7	3.4	31.7	4.6	31.3
	12.5	31.1	12.2	30.9
	18.6	30.8	16.5	30.8
	22.9[∞]	30.7	19.8	30.8
	26.2	30.8	27.4	30.9
	32.6	31.1	35.1	31.2
	41.1	31.7		
8	4.6	31.7	1.5	31.5
	14.9	31.1	9.1	31.2
	22.9[∞]	30.8	13.4	31.1
	29.9	31.1	16.8	31.0
	39.0	31.7	22.9	31.0
			24.4	31.0
			32.0	31.3

TABLE E3-2. SEDIMENT DEPOSITION SURVEY DATA, SITE 2

Cross section†	1976 Survey* Station§ m	1976 Survey* Elevation m	Fall 1979 Survey Station m	Fall 1979 Survey Elevation m
1	1.2	30.8	3.0	30.6
	4.6	30.5	6.1	30.4
	9.1	30.2	13.7	30.2
	17.1	29.9	21.3	30.2
	22.9∞	29.9	25.0	30.2
	30.8	29.9	29.0	30.1
	45.7	30.2	36.6	30.2
	49.7	30.5	44.2	30.3
	49.7	31.1	48.8	30.5
			49.7	30.6
			49.7	31.1
2	3.0	30.8	6.4	30.6
	6.4	30.5	13.4	30.2
	10.4	30.2	21.0	30.2
	20.1	29.9	24.4	30.2
	22.9∞	29.9	28.7	30.2
	25.9	29.9	36.3	30.2
	43.0	30.2	43.9	30.4
	46.6	30.5	48.5	30.6
	51.2	30.8	51.5	30.7
3	0.6	31.1	5.5	30.7
	4.3	30.8	13.1	30.3
	7.9	30.5	20.7	30.2
	12.5	30.2	25.0	30.3
	22.9∞	29.9	28.3	30.4
	40.8	30.2	36.0	30.2
	44.8	30.5	43.3	30.4
	49.4	30.8	48.2	30.7
	53.0	31.1		

*1976 survey data are based on a 30 m grid survey made during the summer of 1976.

†Flume inlet is 0+00 with cross sections numbered with increasing distance upslope from the flume. Distance between cross sections is 7.62 m.

§Stations are measured relative to a centerline projected upslope from the flume centerline. The centerline station is 22.9 m for all cross sections with 0 m being to the left of center as viewed looking upslope from the flume.

∞Indicates the centerline of the flume as projected upslope.

TABLE E3-2 (continued).

Cross section	1976 Survey Station m	1976 Survey Elevation m	Fall 1979 Survey Station m	Fall 1979 Survey Elevation m
4	2.4	31.1	8.5	30.6
	6.1	30.8	13.1	30.4
	10.4	30.5	20.7	30.3
	18.6	30.2	25.0	30.4
	22.9[∞]	30.1	28.3	30.4
	35.4	30.2	36.0	30.3
	42.4	30.5	43.6	30.6
	46.3	30.8		
	50.0	31.1		
5	4.0	31.1	11.6	30.6
	8.2	30.8	13.1	30.5
	13.1	30.5	20.7	30.4
	22.9[∞]	30.2	25.0	30.4
	38.7	30.5	28.3	30.4
	43.0	30.8	36.0	30.4
	47.2	31.1		
6	7.3	31.1	13.1	30.7
	11.0	30.8	14.0	30.6
	15.8	30.5	21.0	30.4
	22.9[∞]	30.4	25.3	30.5
	35.1	30.5	28.7	30.5
	40.2	30.8	36.3	30.5
	44.2	31.1		
7	9.8	31.1	13.4	30.8
	13.1	30.8	21.0	30.4
	17.7	30.5	25.3	30.5
	22.9[∞]	30.4	28.7	30.5
	31.4	30.5	33.2	30.5
	37.5	30.8		
	41.8	31.1		
8	11.3	31.1	20.1	30.5
	15.2	30.8	21.3	30.5
	20.4	30.5	25.6	30.6
	22.9[∞]	30.4	29.6	30.6
	26.2	30.5		
	34.1	30.8		
	39.6	31.1		
9	12.5	31.1	21.9	30.5
	17.1	30.8	25.6	30.6
	22.9[∞]	30.5	29.3	30.7
	32.0	30.8		
	39.0	31.1		

TABLE E3-3. SEDIMENT DEPOSITION SURVEY DATA, SITE 1

Cross section*	Station† m	5/15/80 Elevation m	6/5/80 Elevation m	10/24/80 Elevation m
1	0.0	--§	--	--
	7.6		--	--
	15.2		30.21	30.24
	22.9∞		30.27	30.30
	30.5		30.39	30.39
	38.1		30.60	30.60
	45.7		30.91	30.94
	53.3		31.49	31.46
2	0.0		--	--
	7.6		30.48	30.48
	15.2		30.33	30.30
	22.9∞		30.33	30.30
	30.5		30.39	30.39
	38.1		30.60	30.60
	45.7		31.97	31.97
	53.3		31.49	31.52
3	0.0		--	--
	7.6		30.72	30.69
	15.2		30.39	30.42
	22.9∞		30.36	30.39
	30.5		30.42	30.42
	38.1		30.66	30.66
	45.7		31.00	31.00
	53.3		31.58	31.58
4	0.0		--	--
	7.6		30.94	30.97
	15.2		30.57	30.48
	22.9∞		30.48	30.48
	30.5		30.48	30.48
	38.1		30.69	30.69
	45.7		31.03	31.03
	53.3		31.67	31.67

*Flume inlet is 0+00 with cross sections numbered with increasing distance upslope from the flume. Distance between cross sections is 7.62 m.

†Stations are measured relative to a centerline projected upslope from the flume centerline. The centerline station is 22.9 m for all cross sections with 0 m being to the left of center as viewed looking upslope from the flume.

§Data for this period are not available; spring tillage had bot been completed at this time at this site.

∞Indicates the centerline of the flume as projected upslope.

TABLE E3-3 (continued).

Cross section	Station m	5/15/80 Elevation m	6/5/80 Elevation m	10/24/80 Elevation m
5	0.0	--*	--	--
	7.6		31.24	31.24
	15.2		30.69	30.72
	22.9∞		30.60	30.60
	30.5		30.57	30.57
	38.1		30.78	30.78
	45.7		31.12	31.12
	53.3		31.70	31.70
6	0.0		--	--
	7.6		--	31.58
	15.2		30.94	30.91
	22.9∞		30.72	30.72
	30.5		30.72	30.69
	38.1		30.85	30.88
	45.7		31.21	31.21
	53.3		31.64	31.70
7	0.0		--	--
	7.6		--	--
	15.2		31.21	31.18
	22.9∞		30.91	30.88
	30.5		30.91	30.88
	38.1		30.97	30.97
	45.7		31.27	31.24
	53.3		31.76	31.76
8	0.0		--	--
	7.6		--	--
	15.2		31.46	31.42
	22.9∞		31.09	31.09
	30.5		31.00	31.00
	38.1		31.09	31.06
	45.7		31.33	31.33
	53.3		--	31.76
9	0.0		--	--
	7.6		--	--
	15.2		--	31.67
	22.9∞		--	31.30
	30.5		--	31.18
	38.1		--	31.13
	45.7		--	31.36
	53.3		--	31.82

TABLE E3-4. SEDIMENT DEPOSITION SURVEY DATA, SITE 2

Cross section*	Station† m	5/15/80 Elevation m	6/5/80 Elevation m	10/24/80 Elevation m
1	0.0	--	30.82	30.85
	7.6	30.36	30.36	30.36
	15.2	30.11	30.14	30.11
	22.9§	30.36	30.08	30.08
	30.5	30.08	30.11	30.11
	38.1	30.21	30.27	30.27
	45.7	30.42	30.48	30.48
	53.3	--	--	--
2	0.0	--	31.06	31.06
	7.6	30.39	30.45	30.42
	15.2	30.18	30.21	30.18
	22.9§	30.11	30.14	30.11
	30.5	30.14	30.18	30.18
	38.1	30.21	30.24	30.21
	45.7	30.48	30.48	30.48
	53.3	30.75	30.72	30.72
3	0.0	--	31.18	31.21
	7.6	30.54	30.54	30.57
	15.2	30.24	30.24	30.24
	22.9§	30.18	30.21	30.21
	30.5	30.21	30.24	30.24
	38.1	30.24	30.27	30.27
	45.7	30.63	30.63	30.57
	53.3	31.00	31.03	30.97
4	0.0	--	31.33	31.36
	7.6	30.69	30.69	30.69
	15.2	30.36	30.39	30.39
	22.9§	30.24	30.30	30.30
	30.5	30.24	30.30	30.30
	38.1	30.36	30.39	30.36
	45.7	30.75	30.75	30.78
	53.3	31.27	31.27	31.27

*Flume inlet is at 0+00 with cross sections numbered with increasing distance upslope from the flume. Distance between cross sections is 7.62 m.

†Stations are measured relative to a centerline projected upslope from the flume centerline. The centerline station is 22.9 m for all cross sections with 0 m being to the left of center as viewed looking upslope from the flume.

§Indicates the centerline of the flume as projected upslope.

TABLE E3-4 (continued).

Cross section	Station m	5/15/80 Elevation m	6/5/80 Elevation m	10/24/80 Elevation m
5	0.0	--	--	31.46
	7.6	30.78	30.85	30.88
	15.2	30.48	30.48	30.48
	22.9§	30.33	30.33	30.30
	30.5	30.36	30.33	30.33
	38.1	30.57	30.57	30.54
	45.7	30.91	30.91	30.88
	53.3	31.52	--	31.46
6	0.0	--	--	31.64
	7.6	30.91	30.66	30.66
	15.2	30.51	30.51	30.54
	22.9§	30.36	30.36	30.35
	30.5	30.33	30.39	30.42
	38.1	30.63	30.66	30.60
	45.7	31.06	31.09	31.03
	53.3	--	--	31.61
7	0.0	--	--	--
	7.6	31.15	31.06	31.09
	15.2	30.72	30.63	30.66
	22.9§	30.48	30.39	30.42
	30.5	30.60	30.48	30.48
	38.1	30.85	30.75	30.72
	45.7	--	31.21	31.15
	53.3	--	--	--
8	0.0	--	--	--
	7.6	--	--	31.18
	15.2	30.78	31.18	30.78
	22.9§	30.54	30.75	30.42
	30.5	30.78	30.42	30.60
	38.1	--	30.63	30.85
	45.7	--	30.85	31.24
	53.3	--	31.30	--
9	7.6	--	--	31.33
	15.2	--	31.30	30.84
	22.9§	--	30.82	30.51
	30.5	--	30.51	30.78
	38.1	--	30.78	31.00
	45.7	--	30.97	31.33
	53.3	--	--	--

TABLE E3-4 (continued).

Cross section	Station m	5/15/80 Elevation m	6/5/80 Elevation m	10/24/80 Elevation m
10	7.6	--	--	--
	15.2	--	30.94	30.97
	22.9§	--	30.63	30.63
	30.5	--	30.91	30.91
	38.1	--	--	31.15

TABLE E3-5. SEDIMENT DEPOSITION ABOVE FLUMES AND DIKES AT SITES 1 AND 2

Site 1

June, 1976 to November, 1979 (based on cross section surveys)

Volume of sediment deposited	= 128 m^3
Specific weight of sediment*	= 1.35 g/cm^3
Total sediment deposited	= 173,000 kg
Area of watershed	= 5.05 ha
Sediment yield to deposition area	= 34,300 kg/ha

June 5, 1980 to October 24, 1980 (based on cross section surveys)

Volume of sediment deposited	= 11.0 m^3
Specific weight of sediment*	= 1.07 g/cm^3
Total sediment deposited	= 11,800 kg
Area of watershed	= 5.05 ha
Sediment yield to deposition area	= 2300 kg/ha

Site 2

June, 1976 to November, 1979 (based on cross section surveys)

Volume of sediment deposited	= 258 m^3
Specific weight of sediment*	= 1.47 g/cm^3
Total sediment deposited	= 379,300 kg
Area of watershed	= 6.37 ha
Sediment yield to deposition area	= 59,500 kg/ha

May 15, 1980 to October 24, 1980

Volume of sediment deposited	= 42 m^3
Specific weight of sediment*	= 1.25 g/cm^3
Total sediment deposited	= 52,600 kg
Area of watershed	= 6.37 ha
Sediment yield to deposition area	= 8300 kg/ha

*Samples of known volume were taken from the deposition area on October 24, 1980; specific weight values for each site are based on the average specific weight from these samples.

TABLE E4-1. FOUR MILE CREEK BED CORE SAMPLES, AUGUST 1979

Cross section	Sample location*	Depth cm	Equivalent spherical diameter (microns) 4000	2000	1000	500	350	250	175	125	88	62
			percent finer than									
2	Left	0-2.5	51	28	21	15	14	13	11	10	10	10
		2.5-7.5	87	82	82	79	77	69	50	41	41	41
		7.5-20	100	100	100	100	98	87	61	52	49	48
	Center	0-2.5	100	100	100	100	99	96	86	78	72	70
		2.5-7.5	100	93	82	45	26	18	16	15	13	12
		7.5-20	100	100	99	85	44	13	10	8	8	8
	Right	0-2.5	100	92	84	55	40	32	27	25	24	23
		2.5-7.5	100	100	94	59	32	17	15	14	13	11
		7.5-20	100	98	94	87	64	49	47	46	46	46
4†	Left	0-2.5	100	100	100	100	98	93	88	85	83	82
		2.5-7.5	100	100	98	96	92	87	80	77	75	74
		7.5-20	100	100	99	98	94	87	77	71	68	66
	Center	0-2.5	100	100	100	100	100	98	90	82	76	73
		2.5-7.5	100	100	100	100	99	94	85	78	72	67
		7.5-20	100	100	100	100	100	96	82	68	63	63
	Right	0-2.5	100	100	100	100	98	90	77	71	69	68
		2.5-7.5	100	100	100	100	96	86	77	71	68	66
		7.5-20	100	100	100	100	98	92	84	78	73	71
6	Left	0-2.5	100	100	95	92	87	85	84	83	83	83
		2.5-7.5	100	100	100	100	100	100	99	99	99	99
		7.5-20	100	100	100	100	100	100	99	99	99	99
	Center	0-2.5	100	100	97	61	34	18	15	15	15	15
		2.5-7.5	99	97	90	57	28	11	8	8	8	8
		7.5-20	100	91	83	54	36	18	16	16	16	16
	Right	0-2.5	100	97	94	74	46	16	13	13	13	13
		2.5-7.5	99	97	91	63	25	9	7	6	6	6
		7.5-20	100	95	87	65	42	28	15	12	12	12

*Sample locations (left, center and right) are as viewed looking upstream at each cross section.

†Cores taken between cross sections 3 and 4, approximately 90 m downstream from section 4.

TABLE E4-1 (continued).

Cross section	Sample location	Depth cm	Equivalent spherical diameter (microns) 4000	2000	1000	500	350	250	175	125	88	62
			percent finer than									
8	Left	0-2.5	100	100	96	96	95	92	91	90	89	88
		2.5-7.5	100	100	99	98	87	73	60	56	55	55
		7.5-20	100	97	95	69	40	31	29	29	28	28
	Center	0-2.5	100	99	98	84	59	41	32	31	30	30
		2.5-7.5	100	99	98	95	80	59	37	29	28	27
		7.5-20	100	100	99	87	71	53	32	29	28	28
	Right	0-2.5	100	99	98	98	90	85	82	81	80	80
		2.5-7.5	100	97	97	97	93	90	88	87	86	85
		7.5-20	98	97	95	82	72	64	60	60	59	59
10	Left	0-2.5	100	100	99	92	74	43	23	20	18	17
		2.5-7.5	100	100	99	99	98	93	91	89	88	87
		7.5-20	100	100	100	100	96	77	49	38	36	35
	Center	0-2.5	100	100	97	94	86	73	53	44	41	40
		2.5-7.5	82	71	64	52	41	24	11	7	5	4
		7.5-20	100	99	96	80	47	22	15	14	13	13
	Right	0-2.5	100	100	100	100	93	72	27	17	15	13
		2.5-7.5	100	100	99	93	85	72	62	59	58	57
		7.5-20	100	100	100	100	87	67	48	37	31	28
11	Left	0-2.5	100	100	100	79	29	11	9	8	8	8
		2.5-7.5	100	99	96	81	33	5	3	3	3	3
		7.5-20	100	100	100	95	67	23	7	6	6	6
	Center	0-2.5	100	89	81	73	49	27	15	12	11	10
		2.5-7.5	98	94	83	67	32	8	8	8	8	8
		7.5-20	100	98	94	77	51	8	4	4	4	4
	Right	0-2.5	100	100	100	98	89	74	59	52	50	49
		2.5-7.5	99	99	98	97	94	85	73	67	65	65
		7.5-20	100	100	100	100	89	85	60	42	35	31
12	Left	0-2.5	100	98	96	94	91	85	74	73	71	71
		2.5-7.5	100	99	98	97	94	84	70	66	64	64
		7.5-20	100	100	100	100	99	93	85	80	77	75

TABLE E4-1 (continued).

Cross section	Sample location	Depth cm	Equivalent spherical diameter (microns) 4000	2000	1000	500	350	250	175	125	88	62
			percent finer than									
12	Center	0-2.5	66	54	49	36	23	13	9	8	8	8
		2.5-7.5	100	87	83	76	66	42	33	31	30	30
		7.5-20	100	100	99	92	73	46	31	29	29	29
	Right	0-2.5	100	98	95	89	77	62	48	44	43	43
		2.5-7.5	88	85	82	67	50	30	22	20	20	20
		7.5-20	100	99	96	84	71	60	51	47	44	43
13	Left	0-2.5	100	98	94	84	60	49	46	45	45	45
		2.5-7.5	100	100	100	100	97	92	86	84	82	81
		7.5-20	100	100	100	100	99	94	88	85	83	83
	Center	0-2.5	100	100	98	94	82	58	16	16	16	16
		2.5-7.5	100	99	96	93	71	39	12	11	10	10
		7.5-20	98	95	90	77	54	31	23	21	21	21
	Right	0-2.5	100	100	100	100	100	96	91	87	84	83
		2.5-7.5	100	100	99	98	97	96	94	93	92	92
		7.5-20	100	100	100	100	99	95	90	89	88	87
14	Left	0-2.5	98	97	95	95	93	90	87	85	84	84
		2.5-7.5	100	100	100	100	99	96	94	93	92	92
		7.5-20	100	100	98	97	97	93	89	88	88	87
	Center	0-2.5	100	97	89	84	73	57	47	44	44	44
		2.5-7.5	100	100	98	98	94	91	87	86	84	83
		7.5-20	100	100	98	98	95	92	88	86	86	85
	Right	0-2.5	100	98	95	94	92	89	85	83	82	82
		2.5-7.5	96	96	96	96	92	86	79	77	76	75
		7.5-20	100	100	98	97	96	94	91	89	88	88
15	Left	0-2.5	100	100	100	100	99	91	80	76	75	74
		2.5-7.5	95	93	92	91	86	77	67	64	64	63
		7.5-20	100	100	99	94	83	66	50	46	45	44
	Center	0-2.5	93	86	79	67	58	52	49	48	47	46
		2.5-7.5	100	95	93	89	81	66	51	48	46	46
		7.5-20	79	75	71	65	56	43	35	34	34	34

TABLE E4-1 (continued).

Cross section	Sample location	Depth cm	Equivalent spherical diameter (microns) 4000	2000	1000	500	350	250	175	125	88	62
			percent finer than									
15	Right	0-2.5	100	99	98	93	79	54	39	37	37	37
		2.5-7.5	97	96	95	92	85	75	67	65	65	65
		7.5-20	94	93	92	89	76	61	51	48	48	48

TABLE E4-2. FOUR MILE CREEK BED CORE SAMPLES, JUNE 1980

Cross section	Sample location*	Depth cm	Equivalent spherical diameter (microns) 4000	2000	1000	500	350	250	175	125	88	62
			percent finer than									
2	Left	0-2.5	100	100	100	100	99	90	69	52	48	47
		2.5-7.5	100	100	100	100	98	89	69	55	52	51
		7.5-20	100	100	100	100	98	89	66	50	47	46
	Center	0-2.5	100	94	91	74	46	19	15	15	14	13
		2.5-7.5	100	98	94	77	51	20	12	11	10	9
		7.5-20	100	78	70	48	32	21	18	17	17	17
	Right	0-2.5	100	92	89	78	65	46	35	35	34	33
		2.5-7.5	100	100	95	88	77	65	58	56	55	54
		7.5-20	100	100	98	81	51	18	11	11	11	10
4	Left	0-2.5	100	100	100	100	97	92	88	87	87	86
		2.5-7.5	100	100	96	84	73	60	46	45	45	44
		7.5-20	100	100	99	96	93	90	87	86	85	85
	Center	0-2.5	100	100	99	86	78	25	14	14	13	11
		2.5-7.5	100	100	100	93	70	34	11	10	9	9
		7.5-20	100	100	98	92	75	38	10	9	9	9
	Right	0-2.5	100	100	100	99	93	82	65	57	54	51
		2.5-7.5	100	100	100	99	96	90	80	73	70	69
		7.5-20	100	100	100	100	95	84	65	56	53	52
6	Left	0-2.5	100	100	98	74	40	17	9	7	7	7
		2.5-7.5	100	100	97	78	51	28	17	16	15	14
		7.5-20	100	100	99	91	78	65	59	57	57	56
	Center	0-2.5	100	100	99	85	53	29	16	13	12	12
		2.5-7.5	100	100	99	86	56	34	19	17	16	16
		7.5-20	100	100	98	89	67	38	28	27	25	24
	Right	0-2.5	100	100	100	98	87	69	43	24	16	13
		2.5-7.5	100	100	100	94	66	39	26	19	16	14
		7.5-20	100	100	100	93	54	13	5	4	3	3

*Sample locations (left, center and right) are as viewed looking upstream at each cross section.

TABLE E4-2 (continued).

Cross section	Sample location	Depth cm	Equivalent spherical diameter (microns) 4000	2000	1000	500	350	250	175	125	88	62
			percent finer than									
8	Left	0-2.5	100	100	100	99	95	88	78	75	73	73
		2.5-7.5	100	100	100	100	100	92	83	79	78	77
		7.5-20	100	100	100	99	98	95	89	86	85	84
	Center	0-2.5	100	86	83	67	23	10	8	7	7	7
		2.5-7.5	100	98	98	80	34	17	16	16	15	15
		7.5-20	100	93	89	63	19	5	4	4	4	4
	Right	0-2.5	100	100	100	100	98	95	91	90	89	89
		2.5-7.5	100	100	100	99	98	97	95	94	93	93
		7.5-20	100	100	100	100	97	95	90	89	88	87
10	Left	0-2.5	100	92	89	80	65	37	31	31	30	30
		2.5-7.5	100	99	96	79	40	18	14	12	12	12
		7.5-20	100	100	100	98	85	60	34	30	28	27
	Center	0-2.5	97	92	84	58	26	9	7	7	7	7
		2.5-7.5	100	99	96	76	52	27	16	13	13	13
		7.5-20	100	100	99	90	74	58	52	49	47	47
	Right	0-2.5	100	100	100	100	99	97	93	89	86	85
		2.5-7.5	100	100	100	100	98	95	86	75	71	70
		7.5-20	100	100	100	100	98	93	85	81	79	78
11	Left	0-2.5	100	100	100	100	97	84	65	55	52	50
		2.5-7.5	100	100	100	100	98	92	82	76	74	73
		7.5-20	100	100	100	100	99	92	80	74	71	69
	Center	0-2.5	100	98	97	92	74	46	34	34	33	33
		2.5-7.5	100	96	95	95	92	84	78	75	73	71
		7.5-20	100	99	96	84	70	60	55	53	51	49
	Right	0-2.5	100	97	96	87	73	50	36	34	33	32
		2.5-7.5	100	98	96	69	34	14	10	9	9	9
		7.5-20	100	95	91	81	67	53	39	35	34	33
12	Left	0-2.5	100	95	92	80	67	39	22	19	19	18
		2.5-7.5	100	95	92	83	74	66	57	52	50	49
		7.5-20	100	100	99	95	88	70	47	41	39	38

TABLE E4-2 (continued).

Cross section	Sample location	Depth cm	Equivalent spherical diameter (microns) 4000	2000	1000	500	350	250	175	125	88	62
			percent finer than									
12	Center	0-2.5	100	97	93	80	65	41	21	17	16	15
		2.5-7.5	96	86	76	63	53	43	36	34	33	32
		7.5-20	100	100	100	94	74	42	25	22	21	20
	Right	0-2.5	100	98	96	92	84	70	39	35	33	33
		2.5-7.5	100	100	99	97	88	72	53	47	46	45
		7.5-20	100	100	100	95	80	52	27	23	23	22
13	Left	0-2.5	100	100	99	99	93	72	33	27	26	26
		2.5-7.5	100	100	97	91	76	63	53	49	46	43
		7.5-20	100	99	97	91	76	57	35	27	24	22
	Center	0-2.5	100	91	86	79	68	50	39	37	37	35
		2.5-7.5	100	99	98	95	89	68	23	20	20	20
		7.5-20	100	97	93	85	75	65	59	56	55	54
	Right	0-2.5	86	78	74	66	55	36	25	24	23	22
		2.5-7.5	100	94	90	81	54	26	12	11	11	11
		7.5-20	100	83	64	57	48	30	19	18	17	17
14	Left	0-2.5	83	83	83	82	78	69	54	49	48	47
		2.5-7.5	96	94	92	90	86	78	69	66	65	65
		7.5-20	100	100	100	99	97	94	89	86	84	83
	Center	0-2.5	100	100	100	99	97	95	92	90	89	89
		2.5-7.5	100	99	99	98	96	92	87	84	83	82
		7.5-20	100	100	100	99	98	94	89	87	86	85
	Right	0-2.5	100	98	98	98	93	80	58	52	50	49
		2.5-7.5	100	100	99	98	94	85	75	73	72	71
		7.5-20	100	99	99	97	95	92	89	87	86	85
15	Left	0-2.5	100	100	100	100	99	94	84	79	78	77
		2.5-7.5	100	100	100	99	98	92	79	72	70	69
		7.5-20	100	97	97	95	91	81	65	59	57	56
	Center	0-2.5	100	97	94	87	78	63	53	53	51	50
		2.5-7.5	100	100	99	98	95	87	73	70	69	68
		7.5-20	100	99	98	98	94	84	65	55	52	51

TABLE E4-2 (continued).

Cross section	Sample location	Depth cm	Equivalent spherical diameter (microns) 4000	2000	1000	500	350	250	175	125	88	62
			percent finer than									
15	Right	0-2.5	100	99	98	94	86	76	66	63	61	60
		2.5-7.5	100	97	95	81	58	39	34	33	33	32
		7.5-20	100	100	99	93	78	53	19	15	14	13

TABLE E5-1. FOUR MILE CREEK BED LOAD SAMPLES

Date	Location	Stream section*	Equivalent spherical diameter (microns) 4000	2000	1000	500	350	250	175	125	88	62
			percent finer than									
6/12/79	T-55 bridge†	Center	100	100	100	100	100	91	70	61	58	57
		Center	100	100	100	100	99	88	72	66	64	63
		Center	100	100	100	100	99	91	75	67	65	63
		Right	100	100	100	100	100	97	86	75	72	70
		Left	100	88	79	54	42	26	20	18	18	18
	R Thoms Bridge§	Center	100	100	100	96	57	11	3	2	2	2
		Center	100	100	99	95	57	4	2	2	2	2
		Right	100	100	100	100	100	99	99	98	98	97
		Left	100	100	99	96	71	25	16	15	13	11
	Traer bridge∞	Center	100	100	100	100	91	68	40	38	37	36
		Center	100	100	100	100	93	72	49	43	41	40
		Right	100	100	100	100	99	95	90	85	82	80
6/27/79	T-55 bridge	Center	100	100	100	100	94	73	52	47	46	45
		Left	100	100	100	100	100	99	98	97	95	94
		Right	100	100	99	94	75	45	34	33	33	33
	R Thoms bridge	Center	100	100	99	94	84	62	18	7	6	6
		Right	100	100	100	100	100	100	100	99	99	98
	Traer bridge	Center	100	100	100	100	100	86	39	19	19	19
		Left	100	99	98	87	57	22	14	13	13	13

*Sample locations (left, center and right) are as viewed looking upstream at each cross section.

†Between cross sections 12 and 13.

§Between cross sections 8 and 9.

∞Below cross section 1.

TABLE E5-1 (continued).

Date	Location	Stream section	Equivalent spherical diameter (microns) 4000	2000	1000	500	350	250	175	125	88	62
			percent finer than									
7/3/79	T-55 bridge	Center	100	98	97	95	84	70	63	61	60	60
		Right	100	95	93	89	78	69	66	64	64	63
		Left	100	100	100	100	100	91	85	83	82	81
	R Thoms bridge	Center	100	100	93	88	80	75	74	74	74	73
		Right	100	100	100	100	99	97	93	89	87	86
		Left	100	100	100	100	100	98	95	94	94	93
	Babinet bridge¶	Center	100	100	100	100	100	100	99	98	98	98
5/29/80	T-55 bridge	Left	100	100	100	100	99	91	79	73	70	69
		Left	90	85	81	72	65	50	40	37	36	36
		Center	100	100	99	98	90	75	71	68	68	67
	R Thoms bridge	Left	100	100	100	100	98	96	96	95	95	95
		Right	100	100	100	100	100	98	94	92	89	88
	Babinet bridge	Left	100	100	98	67	28	19	16	14	14	14
		Center	100	100	100	78	31	6	4	4	4	4
		Right	100	100	96	73	19	6	4	4	4	4

¶Between cross sections 4 and 5.

APPENDIX F

NUTRIENT, DISSOLVED SOLIDS, AND SEDIMENT DATA

TABLE F1- 1. FOUR MILE CREEK WATERSHED SOIL CORE NUTRIENT DATA FOR 1979

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
1-1	6/ 7/79	0-1	2.80	90.3	0.35	60.3	1.65	23.0	18.6
1-1	6/ 7/79	1-7.5	0.40	63.8	0.26	28.4	3.75	18.2	24.2
1-1	6/ 7/79	7.5-15	0.40	20.7	0.11	14.1	2.85	8.8	24.4
1-1	6/ 7/79	15-30	0.40	5.2	0.12	14.0	1.90	9.4	26.5
1-1	6/ 7/79	30-45	0.45	4.1	0.09	8.9	1.80	9.2	26.8
1-1	6/ 7/79	45-60	0.35	3.3	0.11	7.4	2.45	5.4	27.4
1-1	6/ 7/79	60-90	0.25	3.0	0.33	11.4	0.90	3.1	28.3
1-1	6/ 7/79	90-120	0.30	2.7	0.12	4.5	1.80	0.9	27.7
1-1	6/ 7/79	120-150	0.25	2.0	0.04	6.6	0.40	0.8	26.8
1-2	6/ 7/79	0-1	12.05	50.1	0.13	206.8	42.85	12.8	22.8
1-2	6/ 7/79	1-7.5	4.45	56.5	0.56	22.6	7.55	7.3	27.3
1-2	6/ 7/79	7.5-15	0.45	14.2	0.36	7.3	7.30	5.9	28.8
1-2	6/ 7/79	15-30	0.80	6.8	0.28	9.5	4.05	4.9	22.5
1-2	6/ 7/79	30-45	0.40	4.7	0.37	4.0	3.95	1.6	30.5
1-2	6/ 7/79	45-60	0.20	3.3	0.38	18.1	3.50	0.6	27.7
1-2	6/ 7/79	60-90	0.20	2.0	0.17	12.3	2.85	0.3	26.8
1-2	6/ 7/79	90-120	0.20	1.9	0.16	8.3	2.60	0.5	30.5
1-2	6/ 7/79	120-150	0.35	1.8	0.16	15.7	1.35	1.0	29.7
1-3	6/ 7/79	0-1	22.30	60.0	0.12	201.0	74.60	22.3	21.2
1-3	6/ 7/79	1-7.5	1.70	67.0	0.60	78.6	0.75	26.5	25.1
1-3	6/ 7/79	7.5-15	2.50	20.4	0.40	18.7	1.20	30.4	27.3
1-3	6/ 7/79	15-30	0.30	0.5	0.40	22.3	6.10	2.0	27.9
1-3	6/ 7/79	30-45	0.80	2.9	0.17	6.5	6.85	1.4	27.5
1-3	6/ 7/79	45-60	0.15	2.7	0.30	6.0	2.70	5.9	27.0
1-3	6/ 7/79	60-90	0.25	2.9	0.05	7.3	2.15	22.7	27.4
1-3	6/ 7/79	90-120	0.35	2.8	0.15	11.3	1.50	22.8	28.2
1-3	6/ 7/79	120-150	0.20	2.5	0.35	23.0	1.05	19.4	29.9
1-4	6/ 7/79	0-1	13.95	184.7	0.34	75.8	33.85	28.5	24.0
1-4	6/ 7/79	1-7.5	0.75	61.5	0.99	16.7	0.55	20.6	26.0
1-4	6/ 7/79	7.5-15	0.65	9.8	0.32	17.2	9.80	8.1	27.8
1-4	6/ 7/79	15-30	0.60	3.9	0.21	9.6	3.15	3.1	27.6
1-4	6/ 7/79	30-45	0.40	5.4	0.12	4.9	6.25	2.2	26.9
1-4	6/ 7/79	45-60	0.25	8.1	0.66	6.7	4.05	9.6	26.7
1-4	6/ 7/79	60-90	0.20	3.4	0.76	5.0	2.20	34.0	27.2
1-4	6/ 7/79	90-120	0.20	4.2	0.54	9.5	0.80	32.2	31.1
1-4	6/ 7/79	120-150	0.30	3.0	0.29	10.5	2.35	20.7	30.2

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
1-5	6/ 7/79	0-1	25.55	23.5	0.10	116.9	49.70	27.0	20.2
1-5	6/ 7/79	1-7.5	0.80	32.5	0.12	18.0	0.55	17.2	25.4
1-5	6/ 7/79	7.5-15	0.80	30.0	0.23	7.8	7.90	11.8	26.3
1-5	6/ 7/79	15-30	0.40	3.2	0.60	15.7	2.75	2.4	27.7
1-5	6/ 7/79	30-45	0.80	1.1	0.15	4.9	2.65	1.2	27.6
1-5	6/ 7/79	45-60	0.15	3.7	0.07	4.4	1.30	11.0	27.2
1-5	6/ 7/79	60-90	0.30	3.5	0.09	2.2	1.35	22.9	26.1
1-5	6/ 7/79	90-120	0.25	3.7	0.19	5.8	5.80	19.2	28.8
1-5	6/ 7/79	120-150	0.35	2.0	0.41	22.1	2.10	12.7	30.6
1-6	6/ 7/79	0-1	9.50	164.5	0.12	72.3	1.75	14.2	21.3
1-6	6/ 7/79	1-7.5	0.50	11.0	0.22	6.7	8.80	6.4	27.5
1-6	6/ 7/79	7.5-15	1.20	40.1	0.08	16.8	0.60	10.2	27.0
1-6	6/ 7/79	15-30	0.35	8.8	0.10	4.0	3.90	10.2	27.4
1-6	6/ 7/79	30-45	0.65	13.1	0.14	10.8	2.20	10.1	26.9
1-6	6/ 7/79	45-60	0.20	3.0	0.20	2.8	2.15	12.7	26.8
1-6	6/ 7/79	60-90	0.35	2.7	0.42	7.8	0.60	7.1	26.8
1-6	6/ 7/79	90-120	0.35	2.3	0.12	7.6	0.35	2.5	26.8
1-6	6/ 7/79	120-150	0.25	1.7	0.12	16.0	0.30	1.4	27.9
1-7	6/ 7/79	0-1	15.55	17.8	0.15	111.4	64.85	9.3	18.8
1-7	6/ 7/79	1-7.5	3.45	70.6	0.44	39.3	1.50	12.2	24.0
1-7	6/ 7/79	7.5-15	0.75	21.2	0.33	13.2	0.70	19.7	26.4
1-7	6/ 7/79	15-30	0.35	8.5	0.08	9.0	7.55	7.6	28.0
1-7	6/ 7/79	30-45	0.45	5.0	0.03	6.2	3.70	10.2	26.9
1-7	6/ 7/79	45-60	0.30	3.8	0.04	9.0	4.40	17.2	27.2
1-7	6/ 7/79	60-90	0.40	2.9	0.11	14.7	3.30	24.5	28.2
1-7	6/ 7/79	90-120	0.70	2.9	0.46	20.1	1.20	24.2	30.3
1-7	6/ 7/79	120-150	0.35	2.6	0.70	18.0	0.40	19.6	30.8
1-8	6/ 7/79	0-1	9.00	122.7	0.32	44.0	38.95	37.8	24.8
1-8	6/ 7/79	1-7.5	1.45	99.2	1.19	36.0	0.60	21.0	28.2
1-8	6/ 7/79	7.5-15	0.80	24.4	0.80	11.0	0.60	36.9	28.5
1-8	6/ 7/79	15-30	0.75	8.1	0.43	39.0	1.60	4.9	29.0
1-8	6/ 7/79	30-45	1.05	11.9	0.52	29.5	4.10	3.4	40.0
1-8	6/ 7/79	45-60	1.70	7.6	1.18	4.7	2.20	2.5	34.6
1-8	6/ 7/79	60-90	1.65	5.1	0.96	6.4	1.40	2.0	31.6
1-8	6/ 7/79	90-120	0.90	3.1	0.41	12.3	3.30	4.9	33.3
1-8	6/ 7/79	120-150	0.40	2.7	0.48	19.1	1.60	5.4	33.4

TABLE F1- 1. CONTINUED

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
2-1	6/ 7/79	0-1	0.85	23.6	0.52	5.8	7.95	18.0	9.8
2-1	6/ 7/79	1-7.5	0.75	9.0	0.73	7.2	6.55	15.5	26.4
2-1	6/ 7/79	7.5-15	0.85	4.4	0.66	3.4	11.20	11.9	32.0
2-1	6/ 7/79	15-30	0.75	5.1	0.25	17.8	3.80	4.9	34.1
2-1	6/ 7/79	30-45	1.15	3.9	0.39	5.8	3.05	2.3	34.7
2-1	6/ 7/79	45-60	1.15	3.0	0.43	2.7	1.45	2.8	28.3
2-1	6/ 7/79	60-90	0.80	2.3	0.28	5.1	1.65	1.6	27.3
2-1	6/ 7/79	90-120	0.75	1.6	0.21	7.2	1.25	2.3	31.6
2-1	6/ 7/79	120-150	0.60	1.4	0.25	7.9	1.00	2.9	33.0
2-2	6/ 7/79	0-1	0.55	17.2	0.30	26.3	2.40	19.2	10.0
2-2	6/ 7/79	1-7.5	0.55	6.7	0.49	14.7	4.60	14.5	23.3
2-2	6/ 7/79	7.5-15	0.60	4.4	0.51	20.7	4.65	12.6	28.6
2-2	6/ 7/79	15-30	0.55	3.6	0.19	14.7	3.05	8.0	28.9
2-2	6/ 7/79	30-45	0.40	1.8	0.35	5.7	1.80	17.0	26.7
2-2	6/ 7/79	45-60	0.40	1.2	0.09	6.7	1.65	18.5	26.9
2-2	6/ 7/79	60-90	0.50	0.5	0.18	3.8	0.75	19.5	28.6
2-2	6/ 7/79	90-120	0.55	0.6	0.37	11.3	0.50	14.5	26.9
2-2	6/ 7/79	120-150	0.50	0.4	0.61	11.7	0.40	11.3	28.5
2-3	6/ 7/79	0-1	0.55	41.3	0.42	13.8	2.65	17.4	14.5
2-3	6/ 7/79	1-7.5	0.80	8.5	0.71	2.0	3.85	16.0	30.5
2-3	6/ 7/79	7.5-15	0.90	4.1	0.67	14.7	1.70	14.0	34.8
2-3	6/ 7/79	15-30	1.70	2.8	0.62	7.2	0.95	3.7	30.6
2-3	6/ 7/79	30-45	1.50	3.2	0.42	15.1	1.00	2.5	32.6
2-3	6/ 7/79	45-60	1.05	3.0	0.37	16.3	1.25	2.0	31.8
2-3	6/ 7/79	60-90	0.65	2.8	0.30	7.3	0.80	3.2	33.8
2-3	6/ 7/79	90-120	0.55	2.5	0.26	9.1	0.55	3.1	30.5
2-3	6/ 7/79	120-150	0.55	1.6	0.25	5.4	0.40	3.7	30.8
2-4	6/ 7/79	0-1	0.60	34.4	0.52	18.7	4.65	27.9	11.8
2-4	6/ 7/79	1-7.5	0.65	9.6	1.27	16.8	8.00	31.4	26.1
2-4	6/ 7/79	7.5-15	0.60	2.6	1.21	14.9	5.90	19.5	28.4
2-4	6/ 7/79	15-30	0.55	3.6	0.16	18.3	2.90	4.1	27.0
2-4	6/ 7/79	30-45	0.45	3.3	0.10	10.4	1.50	14.8	26.3
2-4	6/ 7/79	45-60	0.40	4.6	0.07	10.9	1.00	16.8	26.2
2-4	6/ 7/79	60-90	0.45	2.9	0.10	6.6	0.75	11.8	28.3
2-4	6/ 7/79	90-120	0.50	1.7	0.30	5.7	0.50	12.6	26.0
2-4	6/ 7/79	120-150	0.45	1.4	0.57	9.2	0.50	5.5	29.1
2-5	6/ 7/79	0-1	0.65	14.8	0.35	6.5	13.40	6.8	24.2
2-5	6/ 7/79	1-7.5	0.65	13.2	0.49	3.1	4.55	15.3	24.8
2-5	6/ 7/79	7.5-15	0.70	6.4	1.45	4.5	7.50	52.9	28.2
2-5	6/ 7/79	15-30	0.65	3.5	0.25	11.7	4.85	5.9	29.1
2-5	6/ 7/79	30-45	0.40	3.1	0.05	14.5	2.30	1.7	27.9
2-5	6/ 7/79	45-60	0.40	3.5	0.04	9.5	2.15	13.1	27.2
2-5	6/ 7/79	60-90	0.40	3.1	0.05	6.5	1.20	22.9	27.5
2-5	6/ 7/79	90-120	0.55	2.4	0.22	12.3	0.80	19.8	31.6
2-5	6/ 7/79	120-150	0.65	1.7	0.71	18.4	0.55	18.5	31.6
2-6	6/ 7/79	0-1	0.70	23.3	0.45	6.8	12.05	16.1	24.4
2-6	6/ 7/79	1-7.5	0.70	13.4	0.82	3.4	9.65	42.9	25.0
2-6	6/ 7/79	7.5-15	0.75	6.5	0.74	0.0	9.45	10.2	27.4
2-6	6/ 7/79	15-30	0.65	2.4	0.17	6.8	3.05	2.5	28.0
2-6	6/ 7/79	30-45	0.55	2.1	0.10	7.0	2.15	1.9	27.2
2-6	6/ 7/79	45-60	0.0	2.0	0.03	7.8	2.10	4.1	26.9
2-6	6/ 7/79	60-90	0.45	3.1	0.05	6.1	1.75	24.2	26.8
2-6	6/ 7/79	90-120	0.50	2.6	0.19	2.8	0.75	31.2	28.2
2-6	6/ 7/79	120-150	0.65	1.3	0.49	5.7	0.70	22.4	30.2
2-7	6/ 7/79	0-1	0.80	52.6	0.28	4.5	14.05	13.8	12.0
2-7	6/ 7/79	1-7.5	0.75	11.7	0.38	4.4	4.50	10.0	24.4
2-7	6/ 7/79	7.5-15	0.90	8.5	0.60	5.6	9.05	10.9	29.4
2-7	6/ 7/79	15-30	1.05	8.1	0.56	11.6	11.65	13.6	40.9
2-7	6/ 7/79	30-45	1.35	5.7	0.43	0.8	3.35	4.3	35.3
2-7	6/ 7/79	45-60	2.20	4.0	0.59	6.3	0.80	3.0	31.0
2-7	6/ 7/79	60-90	2.10	1.9	0.51	0.3	0.95	2.4	29.2
2-7	6/ 7/79	90-120	1.45	1.3	0.37	9.6	0.80	5.7	28.7
2-7	6/ 7/79	120-150	1.35	1.2	0.47	9.7	0.85	6.2	33.7
2-8	6/ 7/79	0-1	0.85	22.2	0.82	7.6	11.30	17.6	11.5
2-8	6/ 7/79	1-7.5	1.00	6.8	0.32	4.3	5.95	4.7	24.4
2-8	6/ 7/79	7.5-15	0.95	10.1	1.19	9.2	9.75	37.6	29.1
2-8	6/ 7/79	15-30	0.65	2.6	0.08	14.9	3.00	13.4	27.6
2-8	6/ 7/79	30-45	0.40	1.8	0.03	22.3	2.40	5.1	27.9
2-8	6/ 7/79	45-60	0.40	1.6	0.03	9.1	1.90	19.0	27.6
2-8	6/ 7/79	60-90	0.50	1.0	0.07	16.3	1.20	20.5	27.7
2-8	6/ 7/79	90-120	0.50	0.5	0.42	6.7	0.85	17.8	29.8
2-8	6/ 7/79	120-150	0.60	0.0	0.60	6.0	0.80	11.9	30.4

TABLE F1- 1. CONCLUDED

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
3-1	6/ 8/79	0-1	0.0	10.6	6.40	17.5	1.90	51.4	18.6
3-1	6/ 8/79	1-7.5	0.0	7.5	0.83	11.8	2.40	14.7	19.0
3-1	6/ 8/79	7.5-15	0.0	2.1	0.52	10.3	4.45	6.0	14.1
3-1	6/ 8/79	15-30	0.0	1.1	0.35	7.1	3.55	4.7	20.0
3-1	6/ 8/79	30-45	0.0	0.3	0.21	2.1	3.70	4.4	22.1
3-1	6/ 8/79	45-60	0.0	0.2	0.16	2.0	2.45	14.1	23.0
3-1	6/ 8/79	60-90	0.0	0.1	0.16	1.7	1.55	32.5	23.0
3-1	6/ 8/79	90-120	0.0	0.0	0.20	0.3	0.95	34.6	25.5
3-1	6/ 8/79	120-150	0.0	0.0	0.45	8.3	0.50	30.0	28.6
3-2	6/ 8/79	0-1	5.50	36.7	8.65	83.3	33.50	55.9	37.5
3-2	6/ 8/79	1-7.5	1.30	5.3	1.26	30.7	10.60	20.9	15.2
3-2	6/ 8/79	7.5-15	0.70	0.7	0.52	51.5	7.85	7.6	15.5
3-2	6/ 8/79	15-30	0.20	0.2	0.26	5.4	5.85	6.8	16.2
3-2	6/ 8/79	30-45	0.30	0.1	0.14	3.2	2.55	19.5	18.2
3-2	6/ 8/79	45-60	0.20	0.1	0.22	1.4	2.05	36.3	23.1
3-2	6/ 8/79	60-90	0.25	0.1	0.43	25.6	1.10	37.2	24.4
3-2	6/ 8/79	90-120	0.15	0.0	0.38	2.6	0.45	33.1	29.2
3-2	6/ 8/79	120-150	0.15	0.0	0.61	4.0	0.25	25.7	28.7
3-3	6/ 8/79	0-1	1.95	6.9	2.01	32.5	18.45	38.0	31.7
3-3	6/ 8/79	1-7.5	0.50	2.6	0.34	6.9	6.65	3.1	24.4
3-3	6/ 8/79	7.5-15	0.25	0.8	0.24	17.5	4.50	2.3	21.1
3-3	6/ 8/79	15-30	0.20	0.2	0.13	1.6	2.40	5.3	21.3
3-3	6/ 8/79	30-45	0.05	0.2	0.17	0.0	1.85	9.5	22.0
3-3	6/ 8/79	45-60	0.10	0.1	0.14	12.3	1.05	18.9	22.6
3-3	6/ 8/79	60-90	0.0	0.1	0.33	0.7	0.50	20.7	24.3
3-3	6/ 8/79	90-120	0.05	0.1	0.19	3.5	0.35	7.5	26.7
3-3	6/ 8/79	120-150	0.05	0.1	0.02	0.0	0.35	4.5	26.0
3-4	6/ 8/79	0-1	1.90	23.6	1.08	47.0	13.85	34.7	38.3
3-4	6/ 8/79	1-7.5	0.20	11.3	1.02	4.9	2.55	15.5	29.3
3-4	6/ 8/79	7.5-15	0.20	5.7	0.60	2.6	1.85	16.9	28.2
3-4	6/ 8/79	15-30	0.20	3.6	0.84	1.2	1.70	18.8	30.2
3-4	6/ 8/79	30-45	0.25	3.5	0.76	3.8	1.40	16.9	28.3
3-4	6/ 8/79	45-60	0.65	3.5	1.03	10.3	1.20	17.8	30.5
3-4	6/ 8/79	60-90	0.55	1.6	0.93	22.9	0.70	12.2	32.9
3-4	6/ 8/79	90-120	0.40	0.5	0.70	9.3	0.50	8.3	34.8
3-4	6/ 8/79	120-150	0.40	0.5	0.84	7.8	0.25	7.8	35.2
3-5	6/ 8/79	0-1	0.40	11.1	1.93	15.9	6.20	39.6	18.8
3-5	6/ 8/79	1-7.5	0.25	1.7	0.52	4.5	3.05	8.6	20.0
3-5	6/ 8/79	7.5-15	0.15	0.5	0.31	2.1	1.95	6.2	16.7
3-5	6/ 8/79	15-30	0.10	0.3	0.24	0.7	1.00	5.7	16.2
3-5	6/ 8/79	30-45	0.0	0.2	0.15	17.0	0.65	5.0	18.8
3-5	6/ 8/79	45-60	0.05	0.1	0.18	4.0	0.70	5.9	19.7
3-5	6/ 8/79	60-90	0.0	0.1	0.14	12.3	0.30	6.8	22.1
3-5	6/ 8/79	90-120	0.0	0.1	0.03	0.0	0.05	12.7	23.9
3-5	6/ 8/79	120-150	0.0	0.1	0.10	1.2	0.0	13.7	23.5

SITE	DATE	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
		----------KG/HA----------						CM
1-1	6/ 7/79	6.4	137.3	3.0	190.0	29.9	90.2	52.8
1-2	6/ 7/79	11.0	117.2	4.8	252.2	66.2	33.6	55.3
1-3	6/ 7/79	11.6	126.8	4.8	337.3	57.1	331.3	54.6
1-4	6/ 7/79	7.8	155.0	9.4	211.5	59.7	402.8	55.8
1-5	6/ 7/79	10.1	110.3	4.7	203.9	62.6	274.5	54.6
1-6	6/ 7/79	8.4	137.5	3.8	200.1	28.5	121.8	52.9
1-7	6/ 7/79	13.0	148.2	6.2	314.6	56.9	368.9	55.9
1-8	6/ 7/79	20.7	214.8	13.2	334.5	45.0	126.3	64.1
2-1	6/ 7/79	15.8	58.0	6.3	140.3	48.0	71.9	60.4
2-2	6/ 7/79	9.8	30.4	6.3	194.2	27.2	288.2	53.9
2-3	6/ 7/79	10.5	60.0	7.2	176.6	18.1	83.9	61.9
2-4	6/ 7/79	9.4	59.9	6.8	191.1	29.9	233.9	53.3
2-5	6/ 7/79	10.4	66.6	6.5	225.0	39.8	348.0	57.1
2-6	6/ 7/79	10.0	60.6	5.0	103.0	44.7	375.3	54.5
2-7	6/ 7/79	29.7	74.3	9.3	124.5	53.5	116.9	61.7
2-8	6/ 7/79	11.4	35.3	6.2	214.8	40.4	312.3	55.7
3-1	6/ 8/79	0.0	13.7	6.7	85.5	36.5	457.7	46.3
3-2	6/ 8/79	6.0	12.4	9.6	231.6	47.3	533.7	47.0
3-3	6/ 8/79	2.0	0.2	3.8	70.3	27.0	202.9	47.6
3-4	6/ 8/79	8.1	48.8	16.4	200.8	19.5	263.0	63.3
3-5	6/ 8/79	0.7	6.5	3.2	101.6	11.0	182.8	41.6

TABLE F1-1A. FOUR MILE CREEK WATERSHED SOIL CORE NUTRIENT DATA FOR 1979
(DEEPER CORE DATA FROM 150 DOWN TO 300 CM FOR SELECTED SITES)

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
1-1	6/7/79	150-180	0.20	0.9	0.08	14.0	0.45	0.7	27.6
1-1	6/7/79	180-210	0.30	2.1	0.09	6.1	0.55	0.4	21.4
1-1	6/7/79	210-240	0.35	0.3	0.14	5.5	0.70	2.3	15.7
1-1	6/7/79	240-270	0.25	0.2	0.11	2.8	0.40	1.3	15.5
1-1	6/7/79	270-300	0.70	0.3	0.05	11.1	0.30	0.0	15.5
1-4	6/7/79	150-180	0.30	2.4	0.71	14.3	0.55	16.6	32.8
1-4	6/7/79	180-210	4.60	1.5	1.77	14.7	0.85	13.1	32.5
1-4	6/7/79	210-240	0.20	1.1	1.39	15.2	0.50	12.6	31.7
1-4	6/7/79	240-270	0.30	1.0	0.86	8.4	3.85	9.1	31.0
1-4	6/7/79	270-300	0.60	1.1	0.61	17.9	0.50	6.1	29.2
1-8	6/7/79	150-180	0.65	2.2	0.48	10.4	5.65	5.4	34.3
1-8	6/7/79	180-210	0.55	3.0	0.46	17.1	0.20	5.5	36.2
1-8	6/7/79	210-240	0.35	1.1	0.83	18.8	3.15	20.8	35.7
1-8	6/7/79	240-270	0.35	0.4	0.15	9.4	1.15	8.3	34.3
1-8	6/7/79	270-300	0.90	0.1	0.14	1.4	2.80	6.6	30.3

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
2-1	6/7/79	150-180	0.30	1.5	0.25	4.9	0.85	3.8	38.7
2-1	6/7/79	180-210	0.25	1.2	0.24	3.8	0.60	3.4	34.5
2-1	6/7/79	210-240	0.25	1.1	0.22	3.8	0.60	3.2	33.1
2-1	6/7/79	240-270	0.25	0.5	0.20	3.2	0.75	3.5	28.7
2-1	6/7/79	270-300	0.15	0.0	0.05	2.8	2.05	10.0	33.0
2-4	6/7/79	150-180	0.10	1.0	0.25	5.4	0.80	5.2	28.4
2-4	6/7/79	180-210	0.0	0.2	0.18	3.3	0.70	5.9	22.2
2-4	6/7/79	210-240	0.0	0.0	0.15	2.8	0.85	3.7	17.0
2-4	6/7/79	240-270	0.0	1.1	0.16	2.8	1.45	9.2	20.8
2-4	6/7/79	270-300	0.50	0.4	0.19	3.6	1.65	3.7	19.2
2-6	6/7/79	150-180	0.20	0.9	0.63	5.4	0.65	17.7	31.0
2-6	6/7/79	180-210	0.15	0.6	0.69	5.4	0.65	15.2	32.9
2-6	6/7/79	210-240	0.15	0.3	1.03	7.4	0.70	15.0	31.8
2-6	6/7/79	240-270	0.15	0.1	1.00	1.9	0.60	12.4	31.6
2-6	6/7/79	270-300	0.10	0.8	1.86	3.8	0.60	18.4	32.0

TABLE FI- 2. FOUR MILE CREEK WATERSHED SOIL CORE NUTRIENT DATA FOR 1979

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
1-1	6/29/79	0-1	1.00	24.3	0.62	6.5	7.50	23.5	24.4
1-1	6/29/79	1-7.5	1.60	31.3	1.23	10.5	17.00	27.6	26.9
1-1	6/29/79	7.5-15	1.00	30.4	0.70	11.6	15.00	24.1	26.3
1-1	6/29/79	15-30	0.80	19.1	0.43	10.6	9.50	12.4	27.4
1-2	6/29/79	0-1	0.40	33.4	0.57	14.0	7.00	24.7	23.2
1-2	6/29/79	1-7.5	0.75	31.8	0.80	10.1	13.50	36.4	27.1
1-2	6/29/79	7.5-15	0.30	88.7	0.27	12.7	44.00	17.4	27.1
1-2	6/29/79	15-30	3.95	37.9	0.55	28.2	9.00	9.1	27.0
1-3	6/29/79	0-1	0.20	13.9	0.11	10.4	5.50	30.3	17.2
1-3	6/29/79	1-7.5	1.05	79.3	0.89	22.9	9.50	30.6	22.0
1-3	6/29/79	7.5-15	1.00	55.6	0.49	17.2	13.50	18.5	23.0
1-3	6/29/79	15-30	0.55	16.5	0.38	9.0	11.50	9.0	24.8
2-1	6/29/79	0-1	0.45	24.7	0.59	109.3	8.00	19.8	22.0
2-1	6/29/79	1-7.5	0.95	12.1	0.82	28.5	8.00	18.3	28.3
2-1	6/29/79	7.5-15	1.35	10.6	1.10	17.4	13.00	35.2	30.0
2-1	6/29/79	15-30	1.25	7.3	0.70	21.6	8.00	12.3	31.7
2-2	6/29/79	0-1	1.20	13.5	0.60	31.3	13.50	18.3	13.0
2-2	6/29/79	1-7.5	1.25	9.6	0.91	18.3	8.75	16.1	22.4
2-2	6/29/79	7.5-15	2.05	9.0	1.04	29.8	12.50	24.8	25.8
2-2	6/29/79	15-30	0.55	5.2	0.56	12.9	11.00	11.7	26.7
2-3	6/29/79	0-1	0.85	20.1	0.79	7.7	7.50	20.6	15.9
2-3	6/29/79	1-7.5	1.00	17.2	0.92	9.4	6.50	20.6	24.0
2-3	6/29/79	7.5-15	1.65	16.5	1.24	9.4	7.00	24.6	26.5
2-3	6/29/79	15-30	0.95	8.8	0.63	14.2	7.00	11.9	27.6

SITE	DATE	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
		----------KG/HA----------						CM
1-1	6/29/79	3.9	93.2	2.6	40.3	46.9	71.5	10.1
1-2	6/29/79	8.2	184.7	2.0	74.2	70.6	66.7	10.1
1-3	6/29/79	2.9	151.9	1.9	53.4	42.7	63.2	8.8
2-1	6/29/79	4.4	36.4	3.1	91.5	34.7	73.7	11.3
2-2	6/29/79	4.1	27.7	2.9	70.8	41.0	60.7	9.4
2-3	6/29/79	4.3	48.6	3.2	44.0	25.8	64.8	9.8

TABLE F1- 3. FOUR MILE CREEK WATERSHED SOIL CORE NUTRIENT DATA FOR 1979

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
1-1	7/16/79	0-1	0.85	6.5	0.67	7.8	3.10	24.3	27.0
1-1	7/16/79	1-7.5	0.95	9.4	1.22	8.4	5.50	31.4	27.2
1-1	7/16/79	7.5-15	1.75	12.1	0.96	15.2	12.00	20.6	27.6
1-1	7/16/79	15-30	1.70	14.9	0.49	13.1	7.50	13.8	27.7
1-2	7/16/79	0-1	0.95	7.6	0.73	7.7	6.50	26.1	19.2
1-2	7/16/79	1-7.5	1.10	11.6	0.76	22.2	6.50	26.3	24.6
1-2	7/16/79	7.5-15	1.15	14.3	0.85	21.6	6.50	19.2	24.0
1-2	7/16/79	15-30	0.60	15.5	0.10	6.1	8.50	14.7	25.2
1-3	7/16/79	0-1	0.85	7.9	1.02	5.8	6.50	27.5	25.4
1-3	7/16/79	1-7.5	1.00	12.4	1.13	7.1	8.00	29.5	25.9
1-3	7/16/79	7.5-15	1.10	16.3	0.59	8.5	10.00	19.2	25.7
1-3	7/16/79	15-30	1.00	6.8	0.31	8.4	9.00	7.9	26.8
2-1	7/16/79	0-1	0.80	16.3	0.49	5.8	5.00	18.9	13.1
2-1	7/16/79	1-7.5	0.95	10.9	0.83	7.5	8.50	24.6	25.0
2-1	7/16/79	7.5-15	1.15	8.6	0.86	11.8	9.00	24.4	27.8
2-1	7/16/79	15-30	1.20	8.5	0.63	17.6	8.50	14.9	30.1
2-2	7/16/79	0-1	0.60	14.5	0.61	6.3	5.50	19.3	9.8
2-2	7/16/79	1-7.5	0.90	9.2	0.82	117.3	6.50	17.4	23.0
2-2	7/16/79	7.5-15	1.00	7.0	0.87	12.4	9.50	30.3	26.2
2-2	7/16/79	15-30	0.55	5.0	0.28	11.0	5.50	9.5	27.7
2-3	7/16/79	0-1	0.70	21.9	0.55	6.2	4.00	20.6	13.8
2-3	7/16/79	1-7.5	1.00	15.8	0.90	7.2	5.50	22.5	23.7
2-3	7/16/79	7.5-15	1.05	15.0	1.13	11.9	16.75	30.3	26.9
2-3	7/16/79	15-30	1.00	9.9	0.39	14.8	11.00	9.1	28.5

SITE	DATE	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
		----------KG/HA----------						CM
1-1	7/16/79	5.7	47.7	2.9	46.6	30.2	74.0	10.3
1-2	7/16/79	3.2	52.8	1.7	51.5	28.0	70.4	9.2
1-3	7/16/79	3.8	39.5	2.2	30.3	33.5	60.7	9.8
2-1	7/16/79	4.2	34.9	2.7	50.8	31.9	73.6	10.4
2-2	7/16/79	2.8	25.3	2.1	131.9	25.2	63.0	9.6
2-3	7/16/79	3.6	46.2	2.6	45.4	41.3	66.8	10.0

TABLE F1- 4. FOUR MILE CREEK WATERSHED SOIL CORE NUTRIENT DATA FOR 1979

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
1-1	8/14/79	0-1	0.30	5.7	0.95	3.2	1.40	32.8	27.9
1-1	8/14/79	1-7.5	0.10	4.1	0.44	1.4	2.10	16.9	25.1
1-1	8/14/79	7.5-15	0.15	1.6	0.20	1.4	1.35	4.4	24.1
1-1	8/14/79	15-30	0.10	0.3	0.14	1.0	1.05	10.0	22.9
1-1	8/14/79	30-45	0.10	0.3	0.13	0.9	0.90	10.7	22.2
1-1	8/14/79	45-60	0.10	0.4	0.12	0.9	0.95	7.7	21.5
1-1	8/14/79	60-90	0.05	1.0	0.12	7.1	1.10	8.8	21.2
1-1	8/14/79	90-120	0.0	1.6	0.16	2.3	0.30	11.4	24.5
1-1	8/14/79	120-150	0.05	1.9	0.68	5.3	0.30	15.6	27.4
1-2	8/14/79	0-1	0.20	9.3	0.26	2.8	6.35	25.3	26.4
1-2	8/14/79	1-7.5	0.15	12.0	0.61	2.5	3.40	12.2	24.3
1-2	8/14/79	7.5-15	0.10	6.3	0.26	2.2	4.65	7.8	22.5
1-2	8/14/79	15-30	0.10	0.9	0.29	2.6	1.85	2.7	23.3
1-2	8/14/79	30-45	0.15	10.3	0.30	2.2	5.40	1.8	19.8
1-2	8/14/79	45-60	0.35	6.9	0.28	4.2	2.60	0.9	18.2
1-2	8/14/79	60-90	0.0	1.3	0.17	1.3	1.80	0.6	20.9
1-2	8/14/79	90-120	0.05	1.3	0.15	1.8	2.05	1.8	26.2
1-2	8/14/79	120-150	0.0	1.3	0.18	3.8	0.70	2.6	30.8
1-3	8/14/79	0-1	0.20	8.6	0.84	2.7	4.80	26.5	25.8
1-3	8/14/79	1-7.5	0.15	8.3	0.83	3.5	4.80	26.2	24.1
1-3	8/14/79	7.5-15	0.15	6.1	0.35	2.0	2.90	13.0	21.7
1-3	8/14/79	15-30	0.25	2.0	0.40	1.9	3.45	24.3	19.7
1-3	8/14/79	30-45	0.05	1.5	0.08	1.3	2.30	2.0	18.4
1-3	8/14/79	45-60	0.05	1.8	0.03	2.2	2.15	2.9	18.2
1-3	8/14/79	60-90	0.15	1.8	0.03	5.8	2.05	18.3	19.1
1-3	8/14/79	90-120	0.20	1.9	0.13	10.6	1.00	22.3	22.9
1-3	8/14/79	120-150	0.10	1.9	0.29	11.4	0.50	16.6	26.8
1-4	8/14/79	0-1	0.10	9.8	1.05	2.4	1.90	32.2	24.4
1-4	8/14/79	1-7.5	0.20	7.4	0.75	1.9	5.50	19.8	22.1
1-4	8/14/79	7.5-15	0.20	5.5	2.06	1.5	5.90	38.4	21.0
1-4	8/14/79	15-30	0.20	1.3	0.26	1.5	3.70	5.2	19.3
1-4	8/14/79	30-45	0.05	1.5	0.19	0.6	3.20	4.3	20.4
1-4	8/14/79	45-60	0.05	2.1	0.23	0.7	2.20	8.8	20.7
1-4	8/14/79	60-90	0.05	2.4	0.37	1.5	1.45	22.9	22.0
1-4	8/14/79	90-120	0.05	2.1	0.06	2.6	0.65	19.1	25.7
1-4	8/14/79	120-150	0.05	2.5	0.13	2.9	0.55	12.2	28.0
1-5	8/14/79	0-1	0.10	8.4	0.32	9.3	2.05	24.2	24.4
1-5	8/14/79	1-7.5	0.15	6.4	0.88	3.3	3.90	12.3	24.2
1-5	8/14/79	7.5-15	0.15	4.0	0.52	2.6	4.60	9.0	22.1
1-5	8/14/79	15-30	0.35	7.0	0.33	1.8	3.85	5.7	20.3
1-5	8/14/79	30-45	0.20	4.6	0.17	1.6	3.40	3.8	20.1
1-5	8/14/79	45-60	0.10	3.0	0.12	1.8	3.20	3.2	20.3
1-5	8/14/79	60-90	0.10	2.4	0.09	4.0	2.40	16.9	26.0
1-5	8/14/79	90-120	0.10	2.2	0.10	4.4	1.30	24.4	25.0
1-5	8/14/79	120-150	0.05	2.5	0.14	6.8	0.50	19.0	28.2
1-6	8/14/79	0-1	0.05	6.2	0.21	2.7	1.85	21.4	25.9
1-6	8/14/79	1-7.5	0.05	4.2	0.21	3.1	2.45	30.5	25.5
1-6	8/14/79	7.5-15	0.10	1.8	0.27	2.3	2.40	9.2	22.8
1-6	8/14/79	15-30	0.10	0.8	0.15	1.4	1.65	8.5	19.8
1-6	8/14/79	30-45	0.05	0.5	0.07	1.3	1.85	9.3	18.3
1-6	8/14/79	45-60	0.0	0.2	0.06	1.1	1.45	9.0	20.6
1-6	8/14/79	60-90	0.0	0.1	0.07	1.4	0.65	9.2	22.7
1-6	8/14/79	90-120	0.05	0.9	0.37	3.3	0.60	4.0	26.0
1-6	8/14/79	120-150	0.05	0.8	0.10	4.9	0.50	2.5	28.0
1-7	8/14/79	0-1	0.10	9.5	0.02	3.8	2.65	19.9	26.7
1-7	8/14/79	1-7.5	0.20	5.2	0.88	2.8	6.40	16.1	25.3
1-7	8/14/79	7.5-15	0.20	2.2	0.45	1.6	4.55	6.0	24.8
1-7	8/14/79	15-30	0.05	0.5	0.24	1.3	3.10	12.6	23.5
1-7	8/14/79	30-45	0.15	0.1	0.21	1.3	2.45	18.1	22.0
1-7	8/14/79	45-60	0.10	0.2	0.13	1.3	2.00	20.7	20.3
1-7	8/14/79	60-90	0.10	0.5	0.11	2.1	1.25	20.0	21.2
1-7	8/14/79	90-120	0.10	1.4	0.20	3.0	0.55	18.3	25.7
1-7	8/14/79	120-150	0.05	1.2	0.50	2.1	0.35	15.5	20.9
1-8	8/14/79	0-1	0.30	10.6	0.96	4.1	6.40	21.3	27.3
1-8	8/14/79	1-7.5	0.30	11.7	0.65	3.8	4.15	23.8	27.6
1-8	8/14/79	7.5-15	0.20	7.6	0.96	2.3	5.90	19.2	25.2
1-8	8/14/79	15-30	0.10	5.7	0.54	2.1	5.20	10.2	23.8
1-8	8/14/79	30-45	0.05	9.3	0.27	1.6	3.15	4.7	26.5
1-8	8/14/79	45-60	0.15	10.8	0.17	2.3	4.00	3.5	31.1
1-8	8/14/79	60-90	0.10	5.1	0.35	3.0	1.20	3.2	29.3
1-8	8/14/79	90-120	0.10	1.9	0.27	2.8	0.50	5.3	27.9
1-8	8/14/79	120-150	0.15	1.2	0.23	5.8	0.50	6.8	30.6

TABLE F1- 4. CONTINUED

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
2-1	8/14/79	0-1	0.60	40.8	0.07	4.0	1.60	14.7	19.7
2-1	8/14/79	1-7.5	0.40	15.7	0.20	5.3	1.50	17.2	24.8
2-1	8/14/79	7.5-15	0.60	13.4	0.29	5.0	2.00	15.8	25.6
2-1	8/14/79	15-30	0.55	4.2	0.31	7.7	4.50	10.6	28.9
2-1	8/14/79	30-45	1.15	7.8	0.16	11.3	9.85	7.3	32.0
2-1	8/14/79	45-60	1.00	6.1	0.28	15.3	3.20	3.3	29.0
2-1	8/14/79	60-90	0.60	4.4	0.30	14.6	2.35	3.0	25.7
2-1	8/14/79	90-120	0.60	3.8	0.26	13.7	2.00	1.9	27.3
2-1	8/14/79	120-150	0.35	1.9	0.13	6.0	1.00	2.3	29.6
2-2	8/14/79	0-1	0.50	10.4	0.30	3.8	2.05	17.0	24.4
2-2	8/14/79	1-7.5	0.90	10.4	0.39	6.5	10.20	20.7	23.8
2-2	8/14/79	7.5-15	0.35	4.6	0.18	7.0	2.95	5.8	22.4
2-2	8/14/79	15-30	0.20	2.5	0.03	5.3	1.90	6.6	22.1
2-2	8/14/79	30-45	0.25	2.9	0.03	4.9	1.75	28.8	22.2
2-2	8/14/79	45-60	0.30	3.0	0.03	6.0	1.55	28.8	23.3
2-2	8/14/79	60-90	0.25	2.6	0.05	10.9	1.70	25.0	24.3
2-2	8/14/79	90-120	0.20	1.6	0.20	6.3	0.50	17.6	25.8
2-2	8/14/79	120-150	0.35	0.4	0.69	8.9	0.90	15.7	27.8
2-3	8/14/79	0-1	0.55	9.7	0.43	4.4	3.15	13.6	31.5
2-3	8/14/79	1-7.5	1.25	9.0	1.01	9.4	19.85	34.5	28.9
2-3	8/14/79	7.5-15	0.40	5.6	0.30	16.0	2.05	4.9	25.3
2-3	8/14/79	15-30	0.50	4.0	0.30	22.0	1.85	1.2	30.4
2-3	8/14/79	30-45	0.45	2.6	0.27	15.9	1.90	1.0	32.1
2-3	8/14/79	45-60	0.20	2.4	0.07	7.1	1.05	0.5	31.4
2-3	8/14/79	60-90	0.20	2.2	0.08	9.6	1.05	0.7	31.2
2-3	8/14/79	90-120	0.15	1.9	0.09	5.7	0.45	1.8	27.6
2-3	8/14/79	120-150	0.10	0.5	0.0	5.1	0.30	1.4	27.5
2-4	8/14/79	0-1	0.50	8.1	0.77	3.8	3.95	25.3	27.1
2-4	8/14/79	1-7.5	1.05	8.7	1.65	6.7	3.70	31.8	24.0
2-4	8/14/79	7.5-15	0.90	5.8	1.34	12.1	5.75	32.0	21.0
2-4	8/14/79	15-30	0.40	1.8	0.18	13.4	2.20	14.8	19.6
2-4	8/14/79	30-45	0.30	2.2	0.07	7.8	2.40	21.7	20.4
2-4	8/14/79	45-60	0.30	1.5	0.07	6.3	1.75	20.7	21.8
2-4	8/14/79	60-90	0.30	2.5	0.09	5.2	1.35	17.6	23.6
2-4	8/14/79	90-120	0.30	1.9	0.30	6.0	0.50	12.1	26.6
2-4	8/14/79	120-150	0.20	1.7	0.81	9.6	0.40	12.5	27.8

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
2-5	8/14/79	0-1	0.50	9.0	0.66	3.8	2.65	20.7	26.4
2-5	8/14/79	1-7.5	1.00	6.7	0.66	5.5	2.90	15.6	23.9
2-5	8/14/79	7.5-15	1.15	7.3	0.54	8.3	7.20	40.3	22.1
2-5	8/14/79	15-30	0.65	1.3	0.23	7.1	3.95	5.3	20.9
2-5	8/14/79	30-45	0.60	2.0	0.07	14.4	3.00	6.1	20.8
2-5	8/14/79	45-60	0.45	1.3	0.03	19.9	2.35	18.4	21.0
2-5	8/14/79	60-90	0.40	1.6	0.07	5.8	1.70	25.0	22.0
2-5	8/14/79	90-120	0.20	2.3	0.16	5.8	0.60	20.7	28.0
2-5	8/14/79	120-150	0.25	2.0	0.56	13.2	0.45	11.1	29.3
2-6	8/14/79	0-1	0.50	5.4	0.86	5.1	4.90	19.3	23.3
2-6	8/14/79	1-7.5	0.60	6.7	0.86	6.1	6.70	22.2	21.5
2-6	8/14/79	7.5-15	0.90	9.3	1.31	13.5	11.30	29.1	22.2
2-6	8/14/79	15-30	0.70	2.1	0.20	10.8	4.95	5.0	19.9
2-6	8/14/79	30-45	0.40	1.5	0.13	11.2	3.55	3.6	19.6
2-6	8/14/79	45-60	0.30	1.0	0.05	9.1	3.60	7.4	19.9
2-6	8/14/79	60-90	0.40	1.4	0.09	6.5	2.50	35.3	22.1
2-6	8/14/79	90-120	0.30	2.8	0.20	6.4	1.90	34.2	26.4
2-6	8/14/79	120-150	0.40	5.3	0.33	8.5	0.70	28.4	28.8
2-7	8/14/79	0-1	0.60	6.3	0.40	2.7	3.90	15.7	26.2
2-7	8/14/79	1-7.5	0.60	10.0	0.52	4.1	3.10	14.6	23.6
2-7	8/14/79	7.5-15	1.00	7.4	0.80	4.7	4.00	25.2	23.3
2-7	8/14/79	15-30	0.70	5.7	0.41	11.6	4.70	6.4	22.1
2-7	8/14/79	30-45	1.20	2.8	0.44	26.4	1.65	15.6	21.0
2-7	8/14/79	45-60	0.90	1.4	0.32	28.6	1.00	2.0	24.4
2-7	8/14/79	60-90	0.50	1.1	0.23	14.6	0.80	0.8	26.2
2-7	8/14/79	90-120	0.55	1.2	0.20	15.1	0.65	0.9	30.2
2-7	8/14/79	120-150	0.60	1.1	0.33	19.5	0.60	2.2	31.6
2-8	8/14/79	0-1	0.60	7.7	0.44	13.4	3.65	2.8	23.5
2-8	8/14/79	1-7.5	0.50	6.0	0.53	13.0	3.50	14.5	22.4
2-8	8/14/79	7.5-15	0.60	5.1	0.92	7.0	4.35	22.2	22.3
2-8	8/14/79	15-30	0.45	2.4	0.14	6.2	1.50	2.2	21.1
2-8	8/14/79	30-45	0.50	1.8	0.14	10.3	2.00	10.6	18.1
2-8	8/14/79	45-60	0.55	1.3	0.02	20.8	4.10	21.4	21.9
2-8	8/14/79	60-90	0.30	1.6	0.16	9.8	2.00	21.5	24.0
2-8	8/14/79	90-120	0.25	2.3	0.40	7.4	0.85	16.4	29.2
2-8	8/14/79	120-150	0.40	1.6	0.68	10.0	0.55	15.3	29.8

TABLE F1- 4. CONCLUDED

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
3-1	8/16/79	0-1	2.90	17.7	5.13	37.9	11.85	39.0	14.9
3-1	8/16/79	1-7.5	0.70	7.6	0.54	21.4	5.55	6.0	13.8
3-1	8/16/79	7.5-15	0.50	3.4	0.38	7.8	4.95	4.1	13.6
3-1	8/16/79	15-30	0.40	1.2	0.29	10.5	6.95	3.8	13.9
3-1	8/16/79	30-45	0.25	0.3	0.20	5.8	4.20	4.3	18.2
3-1	8/16/79	45-60	0.15	0.1	0.01	3.3	2.70	13.1	18.2
3-1	8/16/79	60-90	0.10	0.0	0.06	4.5	1.55	22.9	21.4
3-1	8/16/79	90-120	0.10	0.0	0.38	5.1	0.85	20.3	25.1
3-1	8/16/79	120-150	0.20	0.0	0.76	9.7	0.65	15.5	26.6
3-2	8/16/79	0-1	0.75	41.7	3.01	64.0	23.75	41.0	23.3
3-2	8/16/79	1-7.5	2.25	12.4	0.37	42.1	12.50	9.0	21.7
3-2	8/16/79	7.5-15	2.45	3.5	0.48	61.1	14.50	4.3	20.0
3-2	8/16/79	15-30	1.30	1.4	0.36	44.2	9.15	2.8	23.6
3-2	8/16/79	30-45	0.55	0.3	0.23	5.1	5.10	1.5	17.5
3-2	8/16/79	45-60	0.25	0.1	0.20	4.6	4.10	1.9	21.2
3-2	8/16/79	60-90	0.20	0.1	0.34	3.8	2.50	16.5	22.3
3-2	8/16/79	90-120	0.30	0.0	0.40	5.8	1.10	23.8	25.2
3-2	8/16/79	120-150	0.45	0.0	0.43	8.7	0.80	23.1	27.7
3-3	8/16/79	0-1	4.45	8.0	1.17	32.5	21.10	31.5	16.9
3-3	8/16/79	1-7.5	1.25	1.1	0.30	22.4	8.55	4.6	20.2
3-3	8/16/79	7.5-15	0.65	0.5	0.21	12.0	5.05	2.6	22.0
3-3	8/16/79	15-30	0.35	0.2	0.16	7.6	2.50	2.8	22.1
3-3	8/16/79	30-45	0.30	0.1	0.19	5.4	2.70	3.4	20.3
3-3	8/16/79	45-60	0.30	0.1	0.04	1.6	1.60	4.4	21.8
3-3	8/16/79	60-90	0.40	0.2	0.01	1.3	1.60	0.2	21.6
3-3	8/16/79	90-120	0.10	0.0	0.02	1.1	0.45	0.3	22.5
3-3	8/16/79	120-150	0.30	0.0	0.09	3.8	0.40	0.2	25.0
3-4	8/16/79	0-1	0.95	72.6	0.56	12.5	23.25	31.3	51.3
3-4	8/16/79	1-7.5	0.40	29.7	0.61	11.9	11.30	13.3	34.4
3-4	8/16/79	7.5-15	0.55	5.1	0.61	18.3	2.45	4.8	28.4
3-4	8/16/79	15-30	0.55	4.4	0.70	17.7	1.00	3.3	29.3
3-4	8/16/79	30-45	0.50	2.4	0.33	15.3	1.90	3.3	29.7
3-4	8/16/79	45-60	0.05	1.1	0.02	3.3	1.20	3.9	29.7
3-4	8/16/79	60-90	0.95	0.6	0.55	26.8	1.15	2.1	30.5
3-4	8/16/79	90-120	1.25	0.4	1.04	45.0	1.10	2.2	36.7
3-4	8/16/79	120-150	1.20	0.2	1.17	29.3	0.60	2.5	31.9
3-5	8/16/79	0-1	2.70	17.5	3.83	54.9	8.85	45.0	18.1
3-5	8/16/79	1-7.5	1.00	3.9	0.69	17.7	7.90	10.3	16.2
3-5	8/16/79	7.5-15	0.70	0.9	0.45	12.2	5.40	8.8	15.2
3-5	8/16/79	15-30	0.45	0.2	0.37	8.2	3.50	10.7	14.7
3-5	8/16/79	30-45	0.35	0.1	0.52	7.9	3.05	10.1	15.2
3-5	8/16/79	45-60	0.40	0.1	0.41	9.8	2.00	11.1	18.1
3-5	8/16/79	60-90	0.45	0.0	0.67	10.4	1.15	12.2	21.7
3-5	8/16/79	90-120	0.45	0.0	1.29	10.0	0.70	12.6	24.1
3-5	8/16/79	120-150	0.50	0.0	2.35	14.2	0.45	14.8	25.8

SITE	DATE	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
		----------KG/HA----------						CM
1-1	8/14/79	1.2	26.3	5.3	67.2	15.3	219.3	46.5
1-2	8/14/79	1.0	66.8	4.5	49.6	44.4	50.8	47.2
1-3	8/14/79	2.7	46.4	3.9	127.8	36.1	320.3	42.5
1-4	8/14/79	1.3	50.0	5.2	38.2	37.9	304.9	45.9
1-5	8/14/79	2.5	66.2	3.8	77.7	44.0	287.0	47.5
1-6	8/14/79	0.8	16.6	3.2	51.7	20.8	149.4	46.3
1-7	8/14/79	1.9	21.8	5.6	40.4	32.6	332.5	44.2
1-8	8/14/79	2.4	99.1	6.8	64.2	41.5	145.1	55.4
2-1	8/14/79	12.2	105.0	4.6	210.7	57.3	99.4	54.7
2-2	8/14/79	5.8	48.5	4.6	147.6	33.7	378.1	48.3
2-3	8/14/79	5.4	49.5	3.1	189.3	35.1	55.9	57.2
2-4	8/14/79	6.9	48.9	8.3	152.9	29.8	336.1	47.2
2-5	8/14/79	8.5	46.3	5.0	191.4	37.8	336.1	48.0
2-6	8/14/79	8.4	62.6	3.3	163.0	59.7	470.7	46.3
2-7	8/14/79	13.4	48.6	6.5	331.1	28.7	98.5	52.4
2-8	8/14/79	7.7	44.6	7.0	203.8	35.2	310.2	49.8
3-1	8/16/79	4.5	15.4	7.3	145.1	48.8	288.5	41.4
3-2	8/16/79	12.1	23.4	7.4	275.9	79.0	282.8	45.9
3-3	8/16/79	31.9	4.2	1.9	86.6	37.1	33.3	43.7
3-4	8/16/79	16.7	59.3	14.7	502.8	33.9	66.6	62.6
3-5	8/16/79	9.7	7.9	21.4	221.9	38.0	241.9	40.8

TABLE F1- 5. FOUR MILE CREEK WATERSHED SOIL CORE NUTRIENT DATA FOR 1979

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
1-1	11/16/79	0-1	0.50	0.2	0.80	15.2	0.70	22.5	32.6
1-1	11/16/79	1-7.5	0.60	6.5	1.16	14.1	0.75	28.6	28.7
1-1	11/16/79	7.5-15	0.55	4.3	0.30	10.6	0.75	12.7	26.2
1-1	11/16/79	15-30	0.45	1.1	0.16	7.1	0.85	7.5	26.2
1-1	11/16/79	30-45	0.40	1.4	0.13	8.5	1.00	10.8	25.4
1-1	11/16/79	45-60	0.45	1.6	0.16	9.4	0.70	12.6	26.5
1-1	11/16/79	60-90	0.50	0.8	0.30	7.0	0.60	13.3	26.5
1-1	11/16/79	90-120	0.45	0.6	0.78	13.5	0.50	15.5	26.0
1-1	11/16/79	120-150	0.30	0.7	0.71	18.0	0.40	8.5	25.3
1-2	11/16/79	0-1	0.50	1.0	1.64	36.3	1.50	32.6	33.6
1-2	11/16/79	1-7.5	0.45	8.1	0.69	20.2	1.05	20.1	30.8
1-2	11/16/79	7.5-15	0.50	9.7	0.69	19.8	1.30	27.9	28.5
1-2	11/16/79	15-30	0.70	5.4	0.36	22.1	0.60	1.8	30.4
1-2	11/16/79	30-45	0.75	2.9	0.40	23.3	1.20	1.3	28.0
1-2	11/16/79	45-60	0.70	1.8	0.28	16.9	1.35	0.9	26.4
1-2	11/16/79	60-90	0.65	0.6	0.26	14.8	1.55	1.8	27.8
1-2	11/16/79	90-120	0.65	0.5	0.26	13.4	0.90	4.6	28.0
1-2	11/16/79	120-150	0.55	1.3	0.29	13.9	0.70	5.0	32.5
1-3	11/16/79	0-1	0.75	3.1	1.83	11.4	1.15	20.7	32.2
1-3	11/16/79	1-7.5	0.75	5.0	0.71	11.4	1.05	15.4	29.5
1-3	11/16/79	7.5-15	0.75	6.6	0.87	11.8	1.20	19.9	27.0
1-3	11/15/79	15-30	0.65	3.3	0.16	6.7	1.70	3.4	27.8
1-3	11/16/79	30-45	0.50	2.4	0.08	4.0	1.65	8.1	27.5
1-3	11/16/79	45-60	0.50	1.4	0.37	3.1	1.45	28.0	27.1
1-3	11/16/79	60-90	0.50	0.4	0.25	4.4	1.00	29.1	24.8
1-3	11/16/79	90-120	0.60	0.5	0.29	11.1	0.55	24.6	23.4
1-3	11/16/79	120-150	0.65	0.7	0.58	19.6	0.35	20.0	27.3
1-4	11/16/79	0-1	0.70	0.6	0.80	31.0	2.20	20.0	37.7
1-4	11/16/79	1-7.5	0.70	6.6	0.59	21.3	1.20	20.6	30.3
1-4	11/16/79	7.5-15	0.70	3.8	0.52	13.3	1.10	13.1	30.1
1-4	11/16/79	15-30	0.65	2.2	0.17	9.3	2.30	3.4	30.3
1-4	11/16/79	30-45	0.55	1.0	0.11	5.7	1.85	3.9	28.5
1-4	11/16/79	45-60	0.45	0.7	0.08	21.3	2.00	22.8	28.3
1-4	11/16/79	60-90	0.50	1.0	0.24	4.9	1.70	36.3	26.4
1-4	11/16/79	90-120	0.45	1.0	0.31	13.5	0.75	34.0	23.6
1-4	11/16/79	120-150	0.65	1.3	0.46	17.4	0.45	26.4	27.1

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
1-5	11/16/79	0-1	0.65	1.0	1.22	26.8	1.50	30.8	36.4
1-5	11/16/79	1-7.5	0.80	2.9	0.47	22.8	0.80	12.6	32.7
1-5	11/16/79	7.5-15	0.45	5.9	0.56	20.5	1.20	21.7	30.4
1-5	11/16/79	15-30	0.40	2.2	0.32	23.1	1.50	5.9	30.8
1-5	11/16/79	30-45	0.25	1.2	0.26	12.6	1.65	5.1	29.3
1-5	11/16/79	45-60	0.15	1.0	0.15	10.0	1.20	16.2	27.6
1-5	11/16/79	60-90	0.10	1.9	0.19	5.8	1.05	35.3	27.6
1-5	11/16/79	90-120	0.10	1.3	0.38	11.9	0.65	29.6	28.3
1-5	11/16/79	120-150	0.30	1.4	0.75	20.7	0.40	24.5	27.4
1-6	11/16/79	0-1	0.20	1.9	0.49	7.9	0.90	21.6	38.3
1-6	11/16/79	1-7.5	0.30	6.0	0.41	14.3	0.95	8.8	30.6
1-6	11/16/79	7.5-15	0.35	7.9	0.38	9.2	1.20	11.4	32.1
1-6	11/16/79	15-30	0.35	5.0	0.18	7.1	1.40	2.5	28.6
1-6	11/16/79	30-45	0.40	2.2	0.18	7.1	1.75	0.9	29.0
1-6	11/16/79	45-60	0.35	0.8	0.18	4.9	1.25	0.7	27.4
1-6	11/16/79	60-90	0.15	0.3	0.08	4.8	0.50	1.1	25.5
1-6	11/16/79	90-120	0.15	0.5	0.09	4.1	1.05	2.2	25.8
1-6	11/16/79	120-150	0.15	0.7	0.10	4.8	0.45	1.1	26.9
1-7	11/16/79	0-1	0.30	0.1	1.35	15.5	0.60	24.7	31.3
1-7	11/16/79	1-7.5	0.35	7.5	0.72	9.2	0.60	21.0	27.7
1-7	11/16/79	7.5-15	0.35	3.2	0.30	7.5	0.70	7.7	29.2
1-7	11/16/79	15-30	0.35	1.1	0.21	17.7	0.95	7.7	28.0
1-7	11/16/79	30-45	0.30	0.3	0.21	5.9	0.75	11.0	26.9
1-7	11/16/79	45-60	0.35	0.0	0.24	5.2	0.60	14.7	27.1
1-7	11/16/79	60-90	0.50	0.0	0.34	8.8	0.50	13.9	26.0
1-7	11/16/79	90-120	0.55	0.0	0.66	9.6	0.40	14.3	25.8
1-7	11/16/79	120-150	0.45	0.2	1.11	11.0	0.30	23.9	25.8
1-8	11/16/79	0-1	0.25	0.7	0.80	7.6	1.85	26.0	35.1
1-8	11/16/79	1-7.5	0.30	10.6	0.99	8.9	1.25	26.5	32.0
1-8	11/16/79	7.5-15	0.35	10.2	0.56	8.9	1.20	19.9	29.1
1-8	11/16/79	15-30	0.35	11.6	0.32	7.7	0.75	1.2	32.3
1-8	11/16/79	30-45	0.75	12.3	0.47	16.0	0.65	3.2	36.1
1-8	11/16/79	45-60	0.95	10.2	0.49	18.3	1.25	2.1	30.8
1-8	11/16/79	60-90	0.95	4.2	0.50	19.8	0.95	1.8	27.2
1-8	11/16/79	90-120	0.70	1.9	0.29	22.2	0.85	1.4	26.4
1-8	11/16/79	120-150	0.65	1.4	0.40	23.4	0.50	2.6	32.8

TABLE F1- 5. CONTINUED

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
2-1	11/16/79	0-1	0.20	2.7	0.38	4.1	0.80	16.7	36.4
2-1	11/16/79	1-7.5	0.40	5.0	0.63	8.5	1.40	18.2	30.0
2-1	11/16/79	7.5-15	0.40	6.7	1.49	11.8	2.35	34.8	26.7
2-1	11/16/79	15-30	0.40	3.4	0.41	12.8	5.00	8.2	27.3
2-1	11/16/79	30-45	0.40	12.2	0.33	17.5	3.45	14.7	33.0
2-1	11/16/79	45-60	0.55	11.0	0.27	29.2	5.85	3.3	32.9
2-1	11/16/79	60-90	1.15	5.8	0.55	31.0	5.25	1.4	27.8
2-1	11/16/79	90-120	0.90	4.4	0.45	22.3	2.25	1.4	25.6
2-1	11/16/79	120-150	0.40	2.6	0.28	11.6	1.50	2.4	29.0
2-2	11/16/79	0-1	0.30	2.3	0.33	4.6	0.65	11.3	37.5
2-2	11/16/79	1-7.5	0.45	4.1	0.32	9.5	3.10	8.2	27.7
2-2	11/16/79	7.5-15	0.45	3.1	0.51	15.2	6.80	6.7	27.5
2-2	11/16/79	15-30	0.35	1.1	0.31	9.7	3.10	1.5	28.3
2-2	11/16/79	30-45	0.0	0.9	0.12	6.0	3.10	20.9	27.4
2-2	11/16/79	45-60	0.0	0.6	0.12	11.0	2.70	29.1	26.6
2-2	11/16/79	60-90	0.10	0.6	0.23	9.2	1.60	30.2	27.2
2-2	11/16/79	90-120	0.20	0.7	0.41	7.5	1.45	18.8	26.2
2-2	11/16/79	120-150	0.25	0.8	0.82	8.1	0.85	18.8	27.5
2-3	11/16/79	0-1	0.30	2.5	0.41	5.2	5.75	11.2	39.4
2-3	11/16/79	1-7.5	0.35	3.8	0.51	6.1	2.05	11.9	33.0
2-3	11/16/79	7.5-15	0.50	7.7	0.59	7.1	1.75	20.2	30.6
2-3	11/16/79	15-30	0.75	5.7	0.62	15.3	0.50	7.0	31.2
2-3	11/16/79	30-45	1.55	3.4	0.50	22.6	0.15	1.1	29.7
2-3	11/16/79	45-60	0.95	2.4	0.32	19.7	0.25	0.6	31.4
2-3	11/16/79	60-90	0.15	1.5	0.17	15.2	0.10	0.4	30.1
2-3	11/16/79	90-120	0.15	1.5	0.26	11.4	0.10	2.0	27.3
2-3	11/16/79	120-150	0.10	1.3	0.14	10.5	0.0	3.6	28.1
2-4	11/16/79	0-1	0.20	2.0	0.73	6.1	1.25	23.7	32.6
2-4	11/16/79	1-7.5	0.40	6.3	1.30	13.5	0.50	7.1	25.8
2-4	11/16/79	7.5-15	0.35	6.6	0.70	22.0	1.15	20.6	25.5
2-4	11/16/79	15-30	0.30	2.7	0.24	15.9	0.80	7.4	29.1
2-4	11/16/79	30-45	0.05	1.1	0.14	24.8	0.80	14.1	28.0
2-4	11/16/79	45-60	0.0	1.1	0.08	17.2	0.65	18.0	27.5
2-4	11/16/79	60-90	0.15	1.3	0.16	12.6	0.35	17.6	27.8
2-4	11/16/79	90-120	0.20	2.1	0.32	15.4	0.15	15.1	29.9
2-4	11/16/79	120-150	0.50	2.2	0.69	14.0	0.10	16.9	28.2
2-5	11/16/79	0-1	0.40	1.8	0.71	6.9	1.30	20.6	30.9
2-5	11/16/79	1-7.5	0.50	2.4	0.64	9.5	3.75	11.3	27.2
2-5	11/16/79	7.5-15	0.55	4.5	0.63	10.0	2.55	13.0	27.0
2-5	11/16/79	15-30	0.50	4.0	0.99	11.6	2.95	3.5	29.6
2-5	11/16/79	30-45	0.05	1.8	0.27	3.2	1.45	1.5	28.5
2-5	11/16/79	45-60	0.05	1.7	0.21	3.1	0.80	5.5	27.7
2-5	11/16/79	60-90	0.05	1.0	0.24	9.6	0.50	19.9	28.2
2-5	11/16/79	90-120	0.0	0.5	0.43	9.9	0.25	23.2	29.3
2-5	11/16/79	120-150	0.15	0.5	0.91	6.7	0.15	18.2	28.1
2-6	11/16/79	0-1	0.10	2.0	1.14	5.9	4.15	24.9	32.9
2-6	11/16/79	1-7.5	0.05	3.4	1.11	4.4	2.95	20.6	28.6
2-6	11/16/79	7.5-15	0.05	4.3	1.85	4.9	4.40	14.9	27.0
2-6	11/16/79	15-30	0.60	3.1	0.87	18.1	2.00	2.6	35.9
2-6	11/16/79	30-45	0.05	2.7	0.15	12.1	0.95	3.8	27.1
2-6	11/16/79	45-60	0.0	2.1	0.07	20.7	1.20	4.6	27.5
2-6	11/16/79	60-90	0.0	1.9	0.17	11.6	0.85	27.0	27.0
2-6	11/16/79	90-120	0.15	1.3	0.91	8.5	0.50	31.5	28.3
2-6	11/16/79	120-150	0.95	1.3	1.36	50.6	0.15	27.8	27.4
2-7	11/16/79	0-1	0.50	2.3	0.89	8.3	1.30	15.1	33.5
2-7	11/16/79	1-7.5	0.80	4.4	1.16	8.4	0.45	15.1	29.4
2-7	11/16/79	7.5-15	0.50	5.6	1.37	11.1	3.75	5.8	31.2
2-7	11/16/79	15-30	0.60	7.0	0.42	13.3	2.30	5.9	30.5
2-7	11/16/79	30-45	2.15	5.1	0.51	32.1	1.85	3.5	32.6
2-7	11/16/79	45-60	2.75	2.9	0.44	34.4	0.70	2.7	26.6
2-7	11/16/79	60-90	1.70	0.9	0.26	34.4	0.20	1.5	26.6
2-7	11/16/79	90-120	1.15	0.5	0.18	15.6	0.15	3.4	27.2
2-7	11/16/79	120-150	0.80	0.5	0.25	17.3	0.10	5.6	31.3
2-8	11/16/79	0-1	0.15	1.6	0.25	5.5	2.55	12.1	29.7
2-8	11/16/79	1-7.5	0.45	3.2	0.58	14.5	1.00	6.1	25.4
2-8	11/16/79	7.5-15	0.35	4.5	0.73	13.2	1.60	14.2	25.7
2-8	11/16/79	15-30	0.20	2.1	0.22	13.6	1.40	1.4	28.0
2-8	11/16/79	30-45	0.0	1.0	0.04	9.8	1.85	1.6	27.9
2-8	11/16/79	45-60	0.0	0.3	0.03	13.2	0.95	19.1	27.1
2-8	11/16/79	60-90	0.0	0.6	0.06	9.4	0.65	22.5	27.7
2-8	11/16/79	90-120	0.0	0.3	0.42	8.2	0.60	21.3	27.2
2-8	11/16/79	120-150	0.60	0.2	0.71	11.3	0.15	19.2	27.4

TABLE F1- 5. CONCLUDED

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
3-1	11/16/79	0-1	2.65	9.4	7.31	46.5	92.25	50.9	34.8
3-1	11/16/79	1-7.5	1.20	2.2	1.44	15.8	8.25	12.6	25.9
3-1	11/16/79	7.5-15	0.85	3.6	0.53	13.7	5.80	4.4	25.3
3-1	11/16/79	15-30	0.80	0.4	0.30	14.7	10.35	3.6	25.7
3-1	11/16/79	30-45	0.55	0.1	0.18	6.4	3.20	7.3	21.2
3-1	11/16/79	45-60	0.40	0.0	0.16	18.9	2.30	21.2	15.6
3-1	11/16/79	60-90	0.40	0.0	0.26	4.6	3.60	30.8	17.8
3-1	11/16/79	90-120	0.45	0.0	0.45	5.5	1.60	28.9	21.1
3-1	11/16/79	120-150	0.60	0.0	0.63	12.5	1.00	24.3	25.4
3-2	11/16/79	0-1	1.50	8.5	0.79	50.9	109.60	28.0	48.4
3-2	11/16/79	1-7.5	1.95	6.0	0.68	13.3	21.30	13.7	27.7
3-2	11/16/79	7.5-15	1.60	1.4	0.52	37.9	14.10	4.3	28.0
3-2	11/16/79	15-30	1.15	0.4	0.39	11.2	11.40	3.1	28.6
3-2	11/16/79	30-45	0.65	0.1	0.33	8.7	8.55	2.6	28.3
3-2	11/16/79	45-60	0.50	0.0	0.23	3.5	9.60	8.0	26.6
3-2	11/16/79	60-90	0.45	0.0	0.37	6.8	2.55	29.0	26.3
3-2	11/16/79	90-120	0.45	0.0	0.36	6.8	1.40	29.8	26.3
3-2	11/16/79	120-150	0.55	0.0	0.49	9.5	1.25	24.3	27.3
3-3	11/16/79	0-1	1.65	12.9	1.17	82.1	14.40	32.2	46.4
3-3	11/16/79	1-7.5	1.40	2.2	0.34	22.2	8.40	3.3	25.9
3-3	11/16/79	7.5-15	1.10	1.8	0.28	14.2	6.75	2.0	25.1
3-3	11/16/79	15-30	0.80	0.9	0.23	26.3	6.55	1.7	26.0
3-3	11/16/79	30-45	0.55	0.5	0.17	19.1	4.55	2.2	25.6
3-3	11/16/79	45-60	0.65	0.3	0.05	8.0	3.10	3.6	25.1
3-3	11/16/79	60-90	0.45	0.1	0.02	2.4	2.70	0.8	23.2
3-3	11/16/79	90-120	0.25	0.1	0.04	1.7	1.60	0.6	23.5
3-3	11/16/79	120-150	0.70	0.1	0.03	6.2	1.15	0.5	23.3
3-4	11/16/79	0-1	2.15	16.6	4.29	31.8	15.30	31.1	34.5
3-4	11/16/79	1-7.5	1.70	13.5	1.96	19.7	8.55	20.5	32.1
3-4	11/16/79	7.5-15	1.50	9.1	1.55	15.6	7.50	16.5	28.6
3-4	11/16/79	15-30	1.30	4.1	0.50	11.9	6.00	5.2	30.1
3-4	11/16/79	30-45	0.80	1.5	0.32	13.5	9.15	4.5	33.1
3-4	11/16/79	45-60	0.75	1.3	0.32	11.2	7.70	3.9	31.9
3-4	11/16/79	60-90	1.05	0.2	0.31	9.7	5.65	2.5	26.4
3-4	11/16/79	90-120	1.15	0.2	0.23	7.5	4.85	1.3	26.7
3-4	11/16/79	120-150	0.35	0.2	0.19	6.1	3.30	1.2	28.4
3-5	11/16/79	0-1	8.35	7.6	0.37	43.0	20.70	4.6	37.0
3-5	11/16/79	1-7.5	1.00	1.8	0.38	10.8	8.50	2.0	24.7
3-5	11/16/79	7.5-15	0.75	0.6	0.26	8.9	5.20	1.9	23.4
3-5	11/16/79	15-30	0.25	0.3	0.16	6.5	3.20	1.7	23.4
3-5	11/16/79	30-45	0.25	0.2	0.03	1.8	3.35	1.2	21.2
3-5	11/16/79	45-60	0.25	0.1	0.04	3.6	4.20	0.7	20.6
3-5	11/16/79	60-90	0.25	0.1	0.04	5.4	1.55	0.6	20.6
3-5	11/16/79	90-120	0.35	0.0	0.06	12.8	1.35	0.8	22.2
3-5	11/16/79	120-150	0.25	0.0	0.08	10.6	1.20	1.6	22.6

SITE	DATE	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
		----------KG/HA----------						CM
1-1	11/16/79	8.5	25.7	9.4	226.6	12.2	245.3	51.0
1-2	11/16/79	12.3	44.8	6.8	324.5	20.7	100.6	56.9
1-3	11/16/79	11.5	31.0	7.3	190.5	18.6	403.3	51.1
1-4	11/16/79	10.8	30.5	5.9	247.0	25.2	475.3	53.0
1-5	11/16/79	9.7	34.8	7.8	232.3	18.4	443.0	55.8
1-6	11/16/79	4.5	34.4	2.9	112.8	18.3	46.0	53.2
1-7	11/16/79	8.5	13.1	10.8	188.1	10.3	299.9	51.8
1-8	11/16/79	13.6	112.7	8.6	358.3	16.5	79.0	59.0
2-1	11/16/79	13.0	112.2	9.0	384.0	65.9	120.0	55.9
2-2	11/16/79	3.7	20.4	7.7	172.4	41.3	381.7	53.1
2-3	11/16/79	8.5	49.3	8.1	268.6	6.4	71.9	57.6
2-4	11/16/79	4.8	44.0	7.5	309.9	8.3	300.8	55.2
2-5	11/16/79	2.9	28.6	10.4	157.2	19.0	289.3	55.5
2-6	11/16/79	5.8	49.1	14.8	391.7	20.8	401.4	55.3
2-7	11/16/79	26.0	45.3	7.8	436.6	14.9	84.8	56.7
2-8	11/16/79	3.6	19.3	6.7	210.0	16.0	312.6	53.4
3-1	11/16/79	11.3	6.3	9.3	199.5	78.5	418.0	42.5
3-2	11/16/79	13.5	9.3	7.9	190.9	121.5	377.9	53.3
3-3	11/16/79	11.4	10.3	2.0	184.0	63.5	33.4	47.7
3-4	11/16/79	18.6	37.9	8.8	197.6	116.2	82.4	56.3
3-5	11/16/79	7.5	5.2	1.8	102.1	51.3	23.3	43.2

TABLE F1- 6. FOUR MILE CREEK WATERSHED SOIL CORE NUTRIENT DATA FOR 1980

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
1-1	6/10/80	0-1	0.30	6.2	1.28	10.1	1.05	28.6	10.2
1-1	6/10/80	1-7.5	0.35	7.1	1.45	9.5	3.85	29.2	25.6
1-1	6/10/80	7.5-15	0.25	3.6	0.66	9.5	1.25	7.0	25.6
1-1	6/10/80	15-30	0.25	2.3	0.31	9.4	0.70	7.0	23.8
1-1	6/10/80	30-45	0.25	2.0	0.24	11.5	0.40	7.8	25.2
1-1	6/10/80	45-60	0.25	1.5	0.25	8.4	0.55	7.3	24.9
1-1	6/10/80	60-90	0.20	0.4	0.40	7.8	0.40	8.8	28.0
1-1	6/10/80	90-120	0.25	0.0	1.41	8.6	0.25	13.4	26.9
1-1	6/10/80	120-150	0.15	0.6	0.49	6.0	0.15	5.3	26.7
1-2	6/10/80	0-1	0.50	7.4	1.53	6.7	3.10	28.2	12.4
1-2	6/10/80	1-7.5	0.45	5.7	2.51	8.4	5.65	34.4	24.3
1-2	6/10/80	7.5-15	0.45	4.6	0.71	11.1	0.45	8.6	29.7
1-2	6/10/80	15-30	0.40	5.9	0.47	15.6	2.20	2.7	33.7
1-2	6/10/80	30-45	0.45	4.3	0.58	18.0	1.45	1.3	29.5
1-2	6/10/80	45-60	0.40	2.7	0.49	16.8	1.80	0.5	31.0
1-2	6/10/80	60-90	0.35	1.9	0.26	7.3	1.30	0.5	28.4
1-2	6/10/80	90-120	0.25	1.7	0.15	5.8	0.50	1.5	33.7
1-2	6/10/80	120-150	0.30	1.3	0.25	7.7	0.25	2.4	30.8
1-3	6/10/80	0-1	0.30	12.2	0.88	8.9	1.90	23.1	8.0
1-3	6/10/80	1-7.5	0.30	6.9	0.88	7.4	2.05	15.4	21.5
1-3	6/10/80	7.5-15	0.35	8.2	0.77	9.9	3.00	13.8	24.1
1-3	6/10/80	15-30	0.25	6.1	0.30	13.7	1.95	3.0	26.6
1-3	6/10/80	30-45	0.20	4.5	0.19	12.8	2.00	1.5	26.6
1-3	6/10/80	45-60	0.20	1.8	0.11	7.3	1.20	3.3	26.4
1-3	6/10/80	60-90	0.20	1.1	0.21	6.4	1.30	11.1	26.6
1-3	6/10/80	90-120	0.25	0.2	0.55	6.6	0.40	16.7	28.7
1-3	6/10/80	120-150	0.30	0.3	0.86	7.9	0.25	17.7	29.2
1-4	6/10/80	0-1	0.45	6.5	1.95	6.1	3.65	30.0	15.5
1-4	6/10/80	1-7.5	0.70	3.9	2.41	7.2	6.10	30.7	25.4
1-4	6/10/80	7.5-15	0.40	5.1	0.79	9.0	3.60	10.7	27.2
1-4	6/10/80	15-30	0.35	5.7	0.45	14.3	2.45	2.8	28.0
1-4	6/10/80	30-45	0.35	4.0	0.31	10.5	1.95	2.6	27.6
1-4	6/10/80	45-60	0.25	2.8	0.21	8.4	1.75	3.7	27.5
1-4	6/10/80	60-90	0.20	1.3	0.18	5.9	1.30	23.4	26.1
1-4	6/10/80	90-120	0.20	1.1	0.44	6.7	0.55	23.3	28.4
1-4	6/10/80	120-150	0.30	1.1	0.72	14.2	0.25	23.4	29.9
1-5	6/10/80	0-1	0.30	26.9	0.75	51.3	2.60	27.0	9.4
1-5	6/10/80	1-7.5	0.65	7.9	1.69	19.6	5.15	18.0	22.6
1-5	6/10/80	7.5-15	0.50	8.9	1.94	24.4	5.05	17.0	24.3
1-5	6/10/80	15-30	0.35	10.4	0.58	23.0	2.25	10.1	26.6
1-5	6/10/80	30-45	0.25	5.5	0.16	16.7	1.35	2.4	27.3
1-5	6/10/80	45-60	0.15	4.7	0.07	8.1	1.10	3.7	27.0
1-5	6/10/80	60-90	0.15	5.4	0.13	5.5	1.00	23.0	27.2
1-5	6/10/80	90-120	0.30	2.2	0.51	13.3	0.40	22.9	29.8
1-5	6/10/80	120-150	0.25	3.6	0.15	5.9	0.55	24.4	28.5
1-6	6/10/80	0-1	0.45	4.1	1.08	8.0	1.90	25.9	15.7
1-6	6/10/80	1-7.5	0.30	2.6	0.60	5.9	2.65	4.7	27.4
1-6	6/10/80	7.5-15	0.35	2.6	0.33	5.4	3.35	4.8	27.2
1-6	6/10/80	15-30	0.25	2.7	0.27	7.0	2.10	4.6	27.0
1-6	6/10/80	30-45	0.30	2.2	0.21	9.5	0.90	0.8	27.2
1-6	6/10/80	45-60	0.25	2.7	0.17	10.4	0.40	0.8	25.6
1-6	6/10/80	60-90	0.20	1.6	0.06	4.7	0.35	0.3	25.5
1-6	6/10/80	90-120	0.20	0.6	0.05	5.0	0.30	0.9	27.7
1-6	6/10/80	120-150	0.20	0.4	0.13	3.8	0.20	1.8	28.6
1-7	6/10/80	0-1	0.25	8.8	0.93	6.8	1.65	23.4	8.2
1-7	6/10/80	1-7.5	0.45	5.8	0.63	9.0	2.50	9.8	24.4
1-7	6/10/80	7.5-15	0.30	8.0	0.50	10.5	2.45	2.7	28.2
1-7	6/10/80	15-30	0.25	4.6	0.29	9.1	1.40	4.4	29.8
1-7	6/10/80	30-45	0.20	4.4	0.18	8.7	0.95	4.8	29.4
1-7	6/10/80	45-60	0.20	3.0	0.06	8.3	1.15	4.5	29.9
1-7	6/10/80	60-90	0.25	2.0	0.16	11.3	0.60	10.1	30.2
1-7	6/10/80	90-120	0.25	1.7	0.63	10.1	0.35	13.3	26.8
1-7	6/10/80	120-150	0.25	1.4	1.31	8.2	0.25	17.9	24.8
1-8	6/10/80	0-1	0.25	12.9	1.10	23.0	1.55	29.7	9.8
1-8	6/10/80	1-7.5	0.30	10.4	1.55	10.6	2.95	21.4	24.0
1-8	6/10/80	7.5-15	0.30	12.1	1.22	12.8	2.95	12.9	26.1
1-8	6/10/80	15-30	0.35	11.7	0.82	13.3	2.85	14.9	27.2
1-8	6/10/80	30-45	0.30	9.0	0.52	11.5	1.45	3.8	34.1
1-8	6/10/80	45-60	0.55	7.0	0.77	16.8	1.60	3.3	38.3
1-8	6/10/80	60-90	0.55	3.8	0.38	0.0	0.90	2.9	34.0
1-8	6/10/80	90-120	0.65	2.1	0.89	16.1	0.35	5.6	30.8
1-8	6/10/80	120-150	0.40	2.3	0.91	10.6	0.30	8.3	32.1

TABLE F1- 6. CONTINUED

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
2-1	6/10/80	0-1	2.05	95.8	0.45	7.4	14.55	22.8	11.8
2-1	6/10/80	1-7.5	0.50	30.9	0.47	8.9	5.25	18.6	26.9
2-1	6/10/80	7.5-15	0.30	28.6	0.47	11.0	1.55	16.3	24.6
2-1	6/10/80	15-30	0.50	26.6	0.51	20.8	2.35	12.0	25.7
2-1	6/10/80	30-45	0.35	30.1	0.17	16.5	2.75	4.4	37.9
2-1	6/10/80	45-60	0.60	10.3	0.55	20.1	2.25	1.4	26.5
2-1	6/10/80	60-90	0.35	10.4	0.35	17.0	1.10	1.2	28.2
2-1	6/10/80	90-120	0.35	3.1	0.29	21.8	1.70	0.9	28.0
2-1	6/10/80	120-150	0.30	1.2	0.20	7.5	0.20	2.0	30.3
2-2	6/10/80	0-1	0.50	16.3	0.44	4.9	6.25	14.1	10.8
2-2	6/10/80	1-7.5	0.30	9.2	0.55	4.6	2.00	11.4	26.5
2-2	6/10/80	7.5-15	0.25	11.1	0.21	5.4	1.35	5.6	27.5
2-2	6/10/80	15-30	0.20	11.0	0.02	17.8	0.95	6.2	27.0
2-2	6/10/80	30-45	0.20	12.4	0.02	15.0	0.80	17.1	24.8
2-2	6/10/80	45-60	0.15	6.3	0.06	10.6	0.60	18.9	26.7
2-2	6/10/80	60-90	0.25	2.2	0.26	10.4	0.35	15.3	27.3
2-2	6/10/80	90-120	0.25	1.1	0.51	7.6	0.70	14.4	28.9
2-2	6/10/80	120-150	0.25	0.0	0.94	6.6	0.15	15.6	28.4
2-3	6/10/80	0-1	0.85	138.7	0.34	34.3	5.90	19.3	11.9
2-3	6/10/80	1-7.5	0.35	55.4	0.45	21.0	2.30	16.3	31.2
2-3	6/10/80	7.5-15	0.35	23.0	0.20	22.6	1.50	2.1	31.4
2-3	6/10/80	15-30	0.30	9.2	0.25	17.0	0.65	0.5	29.6
2-3	6/10/80	30-45	0.25	4.5	0.23	11.6	0.45	0.4	28.7
2-3	6/10/80	45-60	0.30	3.8	0.15	9.4	0.45	0.2	28.2
2-3	6/10/80	60-90	0.25	2.4	0.13	7.5	0.30	0.4	29.0
2-3	6/10/80	90-120	0.25	2.1	0.18	5.9	0.15	0.9	28.0
2-3	6/10/80	120-150	0.20	2.2	0.05	5.4	0.20	1.0	29.3
2-4	6/10/80	0-1	0.85	126.1	1.00	2.9	5.45	36.4	9.2
2-4	6/10/80	1-7.5	0.30	131.0	1.37	6.0	1.35	32.9	24.2
2-4	6/10/80	7.5-15	0.25	103.0	0.47	9.1	1.70	17.1	25.6
2-4	6/10/80	15-30	0.20	19.8	0.10	21.3	1.60	8.4	29.1
2-4	6/10/80	30-45	0.20	11.0	0.03	15.2	1.45	12.0	27.9
2-4	6/10/80	45-60	0.20	11.0	0.02	7.6	0.90	13.5	27.4
2-4	6/10/80	60-90	0.20	3.4	0.10	11.0	0.50	15.5	28.6
2-4	6/10/80	90-120	0.25	1.7	0.29	14.0	0.45	12.8	30.7
2-4	6/10/80	120-150	0.25	2.6	0.77	10.3	0.15	13.6	28.2
2-5	6/10/80	0-1	0.45	358.5	1.39	5.0	5.75	35.4	11.2
2-5	6/10/80	1-7.5	0.35	146.0	2.82	8.3	3.05	31.7	25.0
2-5	6/10/80	7.5-15	0.20	28.5	0.63	14.0	1.65	35.2	26.7
2-5	6/10/80	15-30	0.20	30.6	0.08	11.0	2.10	3.2	29.2
2-5	6/10/80	30-45	0.25	6.0	0.16	4.7	1.40	6.8	29.3
2-5	6/10/80	45-60	0.25	2.6	0.17	3.6	0.95	17.7	28.2
2-5	6/10/80	60-90	0.20	2.9	0.21	11.1	1.10	20.7	29.2
2-5	6/10/80	90-120	0.20	1.6	0.43	14.8	0.05	17.7	29.4
2-5	6/10/80	120-150	0.25	1.7	0.78	9.7	0.05	17.7	30.1
2-6	6/10/80	0-1	12.40	463.4	1.12	63.5	43.85	43.8	8.1
2-6	6/10/80	1-7.5	0.15	170.5	1.93	27.2	2.95	31.9	23.6
2-6	6/10/80	7.5-15	0.20	34.4	0.38	17.2	2.50	14.2	25.1
2-6	6/10/80	15-30	0.30	18.3	0.30	8.6	2.20	4.2	29.0
2-6	6/10/80	30-45	0.30	31.7	0.21	7.1	1.90	2.1	28.1
2-6	6/10/80	45-60	0.30	21.3	0.21	5.2	1.45	1.8	27.1
2-6	6/10/80	60-90	0.20	17.5	0.09	6.5	1.70	13.0	27.4
2-6	6/10/80	90-120	0.20	1.1	0.07	11.3	0.65	29.6	27.2
2-6	6/10/80	120-150	0.20	1.1	0.33	8.3	0.35	25.2	27.6
2-7	6/10/80	0-1	0.50	74.3	0.43	7.6	6.00	24.1	9.7
2-7	6/10/80	1-7.5	1.05	57.9	1.30	14.9	5.85	21.2	28.2
2-7	6/10/80	7.5-15	0.25	35.3	1.17	9.8	2.35	21.6	26.6
2-7	6/10/80	15-30	0.35	15.1	0.41	9.7	1.95	7.2	32.1
2-7	6/10/80	30-45	0.80	8.7	0.61	14.0	1.65	4.1	30.4
2-7	6/10/80	45-60	0.45	3.3	0.34	11.9	0.40	2.0	25.5
2-7	6/10/80	60-90	0.30	2.2	0.24	10.6	0.95	1.8	25.0
2-7	6/10/80	90-120	0.35	0.5	0.23	9.3	0.30	3.4	28.1
2-7	6/10/80	120-150	0.30	0.5	0.25	7.8	1.55	4.9	32.5
2-8	6/10/80	0-1	0.90	270.1	0.19	15.2	5.55	20.6	5.7
2-8	6/10/80	1-7.5	0.25	48.1	0.74	6.3	3.90	16.3	23.9
2-8	6/10/80	7.5-15	0.25	53.0	0.44	8.8	3.25	7.1	25.7
2-8	6/10/80	15-30	0.20	47.6	0.01	9.4	1.75	2.7	28.4
2-8	6/10/80	30-45	0.20	14.3	0.02	5.3	1.05	7.4	28.0
2-8	6/10/80	45-60	0.20	4.4	0.31	2.8	0.90	16.7	27.7
2-8	6/10/80	60-90	0.20	1.0	0.15	4.2	2.50	23.4	28.0
2-8	6/10/80	90-120	0.20	0.5	0.41	10.5	0.30	19.8	29.9
2-8	6/10/80	120-150	0.25	1.0	0.68	8.0	0.30	16.3	30.9

TABLE F1- 6. CONCLUDED

SITE	DATE	DEPTH CM	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
			------SOLUBLE PPM-----				--SOIL PPM--		%
3-1	6/10/80	0-1	2.40	10.5	5.66	26.6	17.25	46.1	26.0
3-1	6/10/80	1-7.5	0.50	4.0	1.10	10.5	6.50	6.9	24.6
3-1	6/10/80	7.5-15	0.35	1.9	0.56	11.1	5.95	2.8	27.5
3-1	6/10/80	15-30	0.20	0.6	0.43	8.4	5.20	2.4	29.3
3-1	6/10/80	30-45	0.20	0.2	0.38	8.4	3.05	2.8	29.3
3-1	6/10/80	45-60	0.20	0.1	0.26	4.5	2.10	6.3	25.0
3-1	6/10/80	60-90	0.20	0.0	0.48	5.0	1.75	32.2	31.9
3-1	6/10/80	90-120	0.15	0.0	0.65	5.7	0.55	32.2	27.6
3-1	6/10/80	120-150	0.20	0.1	1.21	7.8	0.65	28.4	29.5
3-2	6/10/80	0-1	2.40	5.2	1.42	17.0	23.35	20.0	22.7
3-2	6/10/80	1-7.5	3.95	2.0	1.25	11.3	13.20	5.2	24.1
3-2	6/10/80	7.5-15	0.95	1.8	0.61	14.8	9.35	3.6	26.7
3-2	6/10/80	15-30	0.45	0.4	0.48	9.6	6.50	2.3	29.2
3-2	6/10/80	30-45	0.20	0.1	0.29	5.3	3.45	1.4	28.9
3-2	6/10/80	45-60	0.25	0.1	0.27	4.1	2.70	6.7	27.1
3-2	6/10/80	60-90	0.15	0.1	0.48	3.6	1.15	32.2	26.5
3-2	6/10/80	90-120	0.20	0.1	0.62	6.3	0.85	27.3	28.0
3-2	6/10/80	120-150	0.20	0.1	0.79	5.7	0.50	21.5	29.4
3-3	6/10/80	0-1	1.30	2.4	2.09	15.4	14.10	32.8	17.8
3-3	6/10/80	1-7.5	0.70	0.8	0.76	10.8	6.70	3.6	23.9
3-3	6/10/80	7.5-15	0.45	0.4	0.44	8.2	6.40	2.0	21.6
3-3	6/10/80	15-30	0.25	0.2	0.25	5.3	2.95	1.4	27.3
3-3	6/10/80	30-45	0.20	0.2	0.24	4.0	1.75	3.1	27.4
3-3	6/10/80	45-60	0.15	0.2	0.04	2.0	1.15	2.6	24.9
3-3	6/10/80	60-90	0.25	0.1	0.04	29.3	0.55	0.3	24.1
3-3	6/10/80	90-120	0.15	0.0	0.04	4.5	0.35	0.2	24.9
3-3	6/10/80	120-150	0.20	0.1	0.04	4.6	0.30	0.3	26.8
3-4	6/10/80	0-1	15.35	21.8	1.54	318.2	464.50	21.9	32.1
3-4	6/10/80	1-7.5	9.20	16.1	0.32	172.4	294.75	3.4	27.4
3-4	6/10/80	7.5-15	1.95	5.6	0.26	78.2	67.20	1.9	26.3
3-4	6/10/80	15-30	3.80	2.1	0.33	105.7	116.25	2.5	31.9
3-4	6/10/80	30-45	2.75	2.6	0.64	34.2	20.40	3.2	35.1
3-4	6/10/80	45-60	1.10	1.3	0.64	17.9	6.05	3.0	26.4
3-4	6/10/80	60-90	0.80	0.4	0.56	45.2	2.35	3.5	27.0
3-4	6/10/80	90-120	0.45	0.1	0.43	14.4	0.85	2.3	27.3
3-4	6/10/80	120-150	0.45	0.1	0.41	8.2	0.80	2.9	30.4
3-5	6/10/80	0-1	3.10	5.8	2.47	33.6	25.40	35.4	20.7
3-5	6/10/80	1-7.5	2.05	1.9	0.74	13.2	22.95	3.9	22.8
3-5	6/10/80	7.5-15	0.90	1.2	0.56	19.8	9.95	3.2	24.2
3-5	6/10/80	15-30	0.25	0.4	0.42	8.3	7.55	3.4	25.1
3-5	6/10/80	30-45	0.40	0.1	0.24	6.7	3.95	3.9	20.4
3-5	6/10/80	45-60	0.25	0.1	0.18	3.6	2.15	13.1	18.8
3-5	6/10/80	60-90	0.20	0.0	0.32	13.9	0.85	24.0	20.0
3-5	6/10/80	90-120	0.20	0.0	0.51	6.3	0.45	28.0	24.1
3-5	6/10/80	120-150	0.30	0.0	0.71	4.8	0.35	27.1	26.1

SITE	DATE	NH4-N	NO3-N	PO4-P	CL	EXT N	AVL P	H2O
		----------KG/HA----------						CM
1-1	6/10/80	4.4	25.7	12.7	162.9	10.8	185.2	51.2
1-2	6/10/80	6.8	54.2	8.5	196.1	23.8	66.0	59.9
1-3	6/10/80	4.8	44.8	9.2	163.9	22.1	226.0	53.0
1-4	6/10/80	5.6	46.5	10.2	185.7	28.7	337.1	54.3
1-5	6/10/80	5.3	101.2	8.1	233.7	25.9	346.5	53.7
1-6	6/10/80	4.5	29.9	3.1	115.4	15.3	35.1	52.8
1-7	6/10/80	4.9	56.8	10.7	185.9	15.9	205.4	54.2
1-8	6/10/80	9.2	106.4	16.9	209.9	22.6	142.4	62.0
2-1	6/10/80	7.6	246.1	6.6	310.9	33.0	83.1	56.2
2-2	6/10/80	4.6	88.6	7.9	189.6	12.8	277.2	53.5
2-3	6/10/80	5.1	142.3	3.3	189.6	9.4	28.9	56.5
2-4	6/10/80	4.5	330.3	6.7	238.0	15.0	279.1	55.4
2-5	6/10/80	4.4	283.9	9.6	199.6	17.7	340.6	56.5
2-6	6/10/80	5.6	433.5	5.4	181.6	30.3	333.2	53.1
2-7	6/10/80	8.0	149.5	7.7	200.2	26.5	106.6	55.8
2-8	6/10/80	4.3	251.1	6.8	139.3	26.0	310.6	55.8
3-1	6/10/80	4.4	9.3	13.7	137.7	43.5	395.1	56.3
3-2	6/10/80	8.4	6.9	11.4	174.4	56.6	353.9	54.4
3-3	6/10/80	4.7	3.9	2.8	191.9	29.2	25.9	49.6
3-4	6/10/80	32.6	36.2	9.4	822.2	653.2	58.7	56.6
3-5	6/10/80	7.5	4.7	9.3	168.5	64.1	367.1	44.7

TABLE F1- 7. FOUR MILE CREEK WATERSHED SOIL CORE MOISTURE DATA FOR 1980

SITE	DATE	DEPTH CM	H2O %	SITE	DATE	DEPTH CM	H2O %	SITE	DATE	DEPTH CM	H2O %	SITE	DATE	DEPTH CM	H2O %
1-1	11/4/80	0-1	17.8	1-5	11/4/80	0-1	23.4	2-1	11/4/80	0-1	15.8	2-5	11/4/80	0-1	27.2
1-1	11/4/80	1-7.5	24.0	1-5	11/4/80	1-7.5	24.6	2-1	11/4/80	1-7.5	28.0	2-5	11/4/80	1-7.5	26.5
1-1	11/4/80	7.5-15	24.4	1-5	11/4/80	7.5-15	25.6	2-1	11/4/80	7.5-15	29.3	2-5	11/4/80	7.5-15	26.6
1-1	11/4/80	15-30	24.2	1-5	11/4/80	15-30	27.7	2-1	11/4/80	15-30	27.0	2-5	11/4/80	15-30	28.2
1-1	11/4/80	30-45	25.0	1-5	11/4/80	30-45	27.5	2-1	11/4/80	30-45	26.4	2-5	11/4/80	30-45	28.1
1-1	11/4/80	45-60	25.2	1-5	11/4/80	45-60	27.6	2-1	11/4/80	45-60	35.8	2-5	11/4/80	45-60	27.5
1-1	11/4/80	60-90	25.2	1-5	11/4/80	60-90	24.0	2-1	11/4/80	60-90	29.7	2-5	11/4/80	60-90	26.3
1-1	11/4/80	90-120	24.8	1-5	11/4/80	90-120	22.9	2-1	11/4/80	90-120	26.5	2-5	11/4/80	90-120	20.8
1-1	11/4/80	120-150	23.1	1-5	11/4/80	120-150	22.3	2-1	11/4/80	120-150	28.0	2-5	11/4/80	120-150	25.7
1-2	11/4/80	0-1	23.7	1-6	11/4/80	0-1	23.9	2-2	11/4/80	0-1	19.5	2-6	11/4/80	0-1	18.0
1-2	11/4/80	1-7.5	26.6	1-6	11/4/80	1-7.5	25.4	2-2	11/4/80	1-7.5	25.0	2-6	11/4/80	1-7.5	27.1
1-2	11/4/80	7.5-15	27.4	1-6	11/4/80	7.5-15	25.7	2-2	11/4/80	7.5-15	25.5	2-6	11/4/80	7.5-15	26.1
1-2	11/4/80	15-30	29.4	1-6	11/4/80	15-30	25.7	2-2	11/4/80	15-30	27.8	2-6	11/4/80	15-30	25.8
1-2	11/4/80	30-45	27.3	1-6	11/4/80	30-45	26.9	2-2	11/4/80	30-45	27.1	2-6	11/4/80	30-45	26.8
1-2	11/4/80	45-60	25.4	1-6	11/4/80	45-60	25.4	2-2	11/4/80	45-60	26.6	2-6	11/4/80	45-60	26.0
1-2	11/4/80	60-90	18.2	1-6	11/4/80	60-90	25.2	2-2	11/4/80	60-90	22.2	2-6	11/4/80	60-90	23.5
1-2	11/4/80	90-120	22.5	1-6	11/4/80	90-120	24.2	2-2	11/4/80	90-120	17.0	2-6	11/4/80	90-120	16.8
1-2	11/4/80	120-150	24.5	1-6	11/4/80	120-150	24.7	2-2	11/4/80	120-150	22.2	2-6	11/4/80	120-150	20.8
1-3	11/4/80	0-1	19.9	1-7	11/4/80	0-1	19.8	2-3	11/4/80	0-1	15.4	2-7	11/4/80	0-1	18.0
1-3	11/4/80	1-7.5	24.0	1-7	11/4/80	1-7.5	23.8	2-3	11/4/80	1-7.5	29.7	2-7	11/4/80	1-7.5	27.0
1-3	11/4/80	7.5-15	24.9	1-7	11/4/80	7.5-15	26.4	2-3	11/4/80	7.5-15	29.2	2-7	11/4/80	7.5-15	26.0
1-3	11/4/80	15-30	27.2	1-7	11/4/80	15-30	27.1	2-3	11/4/80	15-30	31.5	2-7	11/4/80	15-30	29.1
1-3	11/4/80	30-45	26.9	1-7	11/4/80	30-45	26.8	2-3	11/4/80	30-45	28.3	2-7	11/4/80	30-45	33.9
1-3	11/4/80	45-60	25.2	1-7	11/4/80	45-60	26.9	2-3	11/4/80	45-60	27.7	2-7	11/4/80	45-60	28.0
1-3	11/4/80	60-90	24.6	1-7	11/4/80	60-90	26.7	2-3	11/4/80	60-90	28.1	2-7	11/4/80	60-90	25.0
1-3	11/4/80	90-120	25.1	1-7	11/4/80	90-120	24.0	2-3	11/4/80	90-120	28.9	2-7	11/4/80	90-120	24.3
1-3	11/4/80	120-150	26.5	1-7	11/4/80	120-150	28.9	2-3	11/4/80	120-150	27.1	2-7	11/4/80	120-150	25.8
1-4	11/4/80	0-1	23.4	1-8	11/4/80	0-1	26.2	2-4	11/4/80	0-1	12.6	2-8	11/4/80	0-1	20.5
1-4	11/4/80	1-7.5	26.8	1-8	11/4/80	1-7.5	27.0	2-4	11/4/80	1-7.5	25.7	2-8	11/4/80	1-7.5	25.0
1-4	11/4/80	7.5-15	25.8	1-8	11/4/80	7.5-15	25.2	2-4	11/4/80	7.5-15	25.8	2-8	11/4/80	7.5-15	25.6
1-4	11/4/80	15-30	27.6	1-8	11/4/80	15-30	24.5	2-4	11/4/80	15-30	28.2	2-8	11/4/80	15-30	27.3
1-4	11/4/80	30-45	28.0	1-8	11/4/80	30-45	28.7	2-4	11/4/80	30-45	26.5	2-8	11/4/80	30-45	27.1
1-4	11/4/80	45-60	27.7	1-8	11/4/80	45-60	32.2	2-4	11/4/80	45-60	25.5	2-8	11/4/80	45-60	27.0
1-4	11/4/80	60-90	23.1	1-8	11/4/80	60-90	28.2	2-4	11/4/80	60-90	26.1	2-8	11/4/80	60-90	25.5
1-4	11/4/80	90-120	23.4	1-8	11/4/80	90-120	25.8	2-4	11/4/80	90-120	21.4	2-8	11/4/80	90-120	20.1
1-4	11/4/80	120-150	24.9	1-8	11/4/80	120-150	28.8	2-4	11/4/80	120-150	25.7	2-8	11/4/80	120-150	23.2

TABLE F1- 7. CONCLUDED

SITE	DATE	DEPTH CM	H2O %	SITE	DATE	DEPTH CM	H2O %	SITE	CATE	DEPTH CM	H2O %	SITE	DATE	DEPTH CM	H2O %
3-1	11/4/80	0-1	25.5	3-5	11/4/80	0-1	11.0								
3-1	11/4/80	1-7.5	24.0	3-5	11/4/80	1-7.5	23.8								
3-1	11/4/80	7.5-15	23.4	3-5	11/4/80	7.5-15	26.3								
3-1	11/4/80	15-30	20.6	3-5	11/4/80	15-30	24.7								
3-1	11/4/80	30-45	22.6	3-5	11/4/80	30-45	24.5								
3-1	11/4/80	45-60	22.8	3-5	11/4/80	45-60	24.4								
3-1	11/4/80	60-90	20.6	3-5	11/4/80	60-90	22.1								
3-1	11/4/80	90-120	23.1	3-5	11/4/80	90-120	21.8								
3-1	11/4/80	120-150	25.2	3-5	11/4/80	120-150	19.1								
3-2	11/4/80	0-1	24.0												
3-2	11/4/80	1-7.5	23.6												
3-2	11/4/80	7.5-15	25.4												
3-2	11/4/80	15-30	23.4												
3-2	11/4/80	30-45	21.1												
3-2	11/4/80	45-60	23.4												
3-2	11/4/80	60-90	25.8												
3-2	11/4/80	90-120	24.2												
3-2	11/4/80	120-150	24.0												
3-3	11/4/80	0-1	19.3												
3-3	11/4/80	1-7.5	22.3												
3-3	11/4/80	7.5-15	20.1												
3-3	11/4/80	15-30	16.5												
3-3	11/4/80	30-45	13.2												
3-3	11/4/80	45-60	18.2												
3-3	11/4/80	60-90	21.4												
3-3	11/4/80	90-120	22.4												
3-3	11/4/80	120-150	23.2												
3-4	11/4/80	0-1	38.0												
3-4	11/4/80	1-7.5	27.7												
3-4	11/4/80	7.5-15	27.8												
3-4	11/4/80	15-30	33.8												
3-4	11/4/80	30-45	24.2												
3-4	11/4/80	45-60	28.9												
3-4	11/4/80	60-90	26.2												
3-4	11/4/80	90-120	26.2												
3-4	11/4/80	120-150	30.6												

TABLE F2- 1. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1979 SITE 1

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
1	3/16/79	17	7	0.76	0.91	0.073	70	83	7.15
1	3/16/79	19	21	2.97	0.93	0.019	58	91	3.12
1	3/17/79	10	40	1.98	1.25	0.017	58	86	6.54
1	3/17/79	11	34	0.42	1.19	0.387	171	193	12.40
1	3/17/79	15	30	0.01	0.69	0.061	49	50	6.21
1	3/18/79	11	30	0.16	1.52	0.149	64	73	2.73
1	3/18/79	11	45	0.85	0.71	0.064		75	10.81
1	3/18/79	12	30	0.27	0.84	0.030		16	2.23
1	3/18/79	13	30	0.51	1.06	0.081			17.57
1	3/18/79	14	30	0.59	0.79	0.042			11.55
1	3/18/79	15	30	0.23	0.80	0.137			2.96
1	3/18/79	16	30	0.26	0.82	0.016	24	33	18.92
1	3/18/79	17	30	0.44	0.85	0.024	22	23	2.01
1	3/18/79	18	30	0.21	0.85	0.013	49	56	0.88
1	3/18/79	19	30	0.27	0.87	0.051	54	61	4.26
1	3/18/79	20	30	0.68	0.65	0.086	49	68	12.03
1	3/18/79	21	30	0.21	0.80	0.091	39	59	8.74
1	3/18/79	22	30	1.35	0.70	0.090	42	53	18.16
1	3/18/79	23	30	0.19	0.72	0.083	51	70	3.28
1	3/19/79	0	30	0.26	0.86	0.120	50	99	3.91
1	3/19/79	1	30	0.18	0.97	0.101	58	85	0.88
1	3/19/79	2	30	0.20	1.16	0.108	53	60	5.04
1	3/19/79	3	30	0.35	1.23	0.160	65	83	14.39
1	3/19/79	4	30	0.23		0.152	62	81	13.63
1	3/19/79	5	30	0.20		0.137	62	86	2.22
1	3/19/79	6	30	0.22	1.19	0.140	68	72	1.05
1	3/19/79	7	30	0.28	1.36	0.196	64	70	1.60
1	3/19/79	8	30	0.21	1.21	0.196	66	85	0.78
1	3/19/79	9	30	0.16	1.44	0.196	98	99	1.07
1	3/19/79	10	30	0.85		0.205	74	97	2.23
1	3/19/79	13	0	0.30	1.27	0.234	111	185	6.77
1	3/19/79	13	30	0.59	2.35	0.285	75	97	12.16
1	3/19/79	14	30	0.22	2.20	0.294	74	88	5.28
1	3/19/79	15	30	0.43	2.26	0.223	83	94	7.23
1	3/19/79	16	30	0.25	2.88	0.200	76	92	1.73
1	3/19/79	17	30	0.24	2.82	0.200	32	91	0.75
1	3/19/79	18	30	0.37	3.16	0.202	36	113	0.99
1	3/23/79	5	33	0.09	8.77	0.169	66	97	8.06
1	3/23/79	7	35	0.06	9.23	0.137	57	99	2.51
1	3/28/79	18	5	0.13	5.82	0.105	98	17	1.20
1	3/28/79	23	59	0.02	6.81	0.113	108	109	1.45
1	3/29/79	5	7	0.19	6.68	0.134	116	140	0.98
1	3/29/79	7	8	0.27	6.12	0.171	107	585	20.22
1	3/29/79	10	32	0.13	5.90	0.074	109	275	1.74
1	3/29/79	11	43	0.11	5.45	0.113	104	221	3.15
1	3/29/79	12	21	0.16	5.43	0.187	109	165	4.24
1	3/29/79	13	51	0.12	5.31	0.087	97	300	4.46
1	3/29/79	14	51	0.16	5.32	0.165	85	170	15.71
1	3/29/79	15	50	0.15	5.45	0.113	78	143	35.99
1	3/29/79	16	45	0.13	5.27	0.102	81	126	8.39
1	3/29/79	18	45	0.12	5.28	0.098	91	141	4.60
1	3/29/79	20	18	0.10	4.71	0.093	77	620	2.69
1	3/29/79	20	45	0.07	5.14	0.111	80	274	11.66
1	3/29/79	21	20	0.21	5.26	0.138	82	220	17.51
1	3/29/79	22	0	0.06	5.29	0.101	96	161	1.35
1	3/30/79	0	15	0.19	5.08	0.150	111	125	10.45
1	3/30/79	1	45	0.07	4.80	0.180	111	114	18.53
1	4/20/79	4	22	0.38	0.69	0.161		5830	1.62
1	4/20/79	4	30	0.29	0.79	0.340		4941	2.90
1	4/20/79	4	40	0.29	0.72	0.411		4222	3.68
1	4/20/79	9	46	0.23	0.66	0.290		1989	3.15
1	4/20/79	10	4	0.19	0.42	0.353		2402	2.60
1	4/20/79	11	13	0.15	0.41	0.406	32	2261	2.98
1	4/20/79	11	25	0.11	0.39	0.368	17	4693	2.58
1	4/20/79	11	39	0.18	0.49	0.650	24	4041	3.60
1	4/20/79	12	43	0.10	0.28	0.350	19	3098	1.95
1	4/20/79	12	54	0.07	0.15	0.365	30	5411	1.85
1	4/20/79	13	11	0.10	0.22	0.393	36	4125	1.67
1	4/20/79	13	29	0.20	0.45	0.506	30	2939	2.04
1	4/20/79	13	45	0.39	0.70	0.630	49	1910	1.80
1	4/20/79	14	11	0.25	0.71	0.491	67	600	1.54
1	6/ 4/79	11	7	1.44	10.65	0.092	559	2222	18.84
1	6/ 4/79	11	12	1.20	8.21	0.123	421	1701	16.87
1	6/ 4/79	11	20	1.18	10.99	0.179	531	1277	17.94
1	6/ 4/79	19	0	0.28	8.06	0.026	180	9057	8.53
1	6/ 4/79	19	1	1.63	3.94	0.140	97	7437	7.74
1	6/ 4/79	19	6	2.63	11.42	0.157	137	9027	11.14
1	6/ 4/79	19	8	1.17	3.63	0.168	43	11280	3.98
1	6/ 4/79	19	9	2.22	8.52	0.101	106	9843	7.59
1	6/ 4/79	19	11	2.67	10.64	0.175	148	11780	7.36
1	6/ 4/79	19	13	1.98	8.91	0.112	119	11320	7.46
1	6/ 4/79	19	15	2.93	11.31	0.215	137	10390	8.55
1	6/ 4/79	19	19	2.12	9.22	0.108	145	8179	6.39
1	6/ 4/79	19	23	3.19	11.70	0.246	150	6064	11.26
1	6/ 4/79	19	29	3.15	12.49	0.325	156	5229	11.74
1	6/ 4/79	19	34	3.22	13.00	0.410	154	4918	9.53
1	6/ 4/79	19	38	2.03	12.67	0.498	171	3402	11.38
1	6/ 4/79	19	43	3.45	11.83	0.563	161	3730	10.21
1	6/ 4/79	19	48	3.48	12.44	0.630	154	3160	9.69
1	6/ 4/79	19	52	3.52	12.68	0.677	179	2829	15.26
1	6/ 4/79	19	57	3.65	11.90	0.795	167	1866	11.74
1	6/ 4/79	20	1	3.62	12.56	0.837	185	2250	11.14
1	6/ 4/79	20	6	3.62	12.73	0.867	180	1767	12.84
1	6/ 4/79	20	13	3.72	12.68	0.895	172	1784	13.34
1	6/12/79	17	48	0.80	6.63	0.089	144	63210	4.31
1	6/12/79	17	51	0.56	5.50	0.072	131	23150	3.48
1	6/12/79	17	52	0.64	7.00	0.058	127	26640	5.93
1	6/12/79	17	54	0.75	4.45	0.076	114	21290	2.64
1	6/12/79	17	56	1.19	5.76	0.121	138	22590	3.36
1	6/12/79	17	58	1.33	8.74	0.104	164	25830	4.31
1	6/12/79	18	0	1.33	8.24	0.110	140	22080	3.77
1	6/12/79	18	2	1.30	7.12	0.099	135	20200	5.25
1	6/12/79	18	4	1.23	6.42	0.097	120	18020	2.81
1	6/12/79	18	6	0.55	3.78	0.088	91	61160	2.24

TABLE F2- 1. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
1	6/12/79	18	6	0.84	3.99	0.100	122	75850	3.70
1	6/12/79	18	8	0.73	4.17	0.082	103	73870	2.64
1	6/12/79	18	10	1.27	11.12	0.093	171	89750	6.72
1	6/12/79	18	12	1.21	8.96	0.103	151	76520	4.97
1	6/12/79	18	14	1.15	8.55	0.125	136	72550	3.84
1	6/12/79	18	16	1.15	8.41	0.124	102	68650	3.41
1	6/12/79	18	18	1.00	6.49	0.146	104	53790	3.01
1	6/12/79	18	20	0.88	4.93	0.138	66	50050	2.30
1	6/12/79	18	22	0.81	4.80	0.169	56	42930	2.06
1	6/12/79	18	24	0.72	3.60	0.147	43	42320	1.73
1	6/12/79	18	26	0.72	3.43	0.148	52	43600	1.98
1	6/12/79	18	28	0.73	3.66	0.159	44	36080	1.73
1	6/12/79	18	30	0.72	4.01	0.155	54	29960	1.94
1	6/12/79	18	32	0.73	4.56	0.144	54	25930	2.17
1	6/12/79	18	34	0.70	5.02	0.141	50	22880	2.40
1	6/12/79	18	36	0.72	4.80	0.128	78	18330	2.94
1	6/12/79	18	43	0.71	6.53	0.158	113	8958	2.91
1	6/12/79	18	48	0.66	6.08	0.162	118	5895	2.89
1	6/12/79	18	53	0.69	8.08	0.145	158	4332	3.77
1	6/12/79	19	1	0.80	9.08	0.149	150	3008	4.48
1	6/19/79	22	31	0.11	1.66	0.124	30	12690	1.18
1	6/19/79	22	55	0.12	2.45	0.137	30	5865	4.86
1	6/19/79	23	2	0.15	2.70	0.147	73	4411	1.61
1	6/27/79	0	10	0.27	1.82	0.064	23	10940	1.18
1	6/27/79	0	13	0.11	2.43	0.094	52	33100	1.10
1	6/27/79	0	15	0.14	2.68	0.086	60	39500	2.13
1	6/27/79	0	17	0.01	2.99	0.080	101	38800	2.30
1	6/27/79	0	19	0.16	2.44	0.097	47	33240	0.91
1	6/27/79	0	21	0.13	2.19	0.109	47	29490	0.78
1	6/27/79	0	23	0.11	1.86	0.108	64	27690	0.80
1	6/27/79	0	25	0.11	1.67	0.122	54	19940	1.62
1	6/27/79	0	27	0.08	1.58	0.112	48	19740	0.80
1	6/27/79	0	29	0.08	1.54	0.106	76	18000	0.86
1	6/27/79	0	31	0.08	1.47	0.107	49	16120	0.93
1	6/27/79	0	33	0.07	1.35	0.117	36	13360	0.96
1	6/27/79	0	35	0.05	1.34	0.096	60	14020	0.82
1	6/27/79	0	37	0.05	1.32	0.112	39	13150	0.82
1	6/27/79	0	39	0.06	1.35	0.116	34	12900	0.97
1	6/27/79	0	41	0.04	1.34	0.107	53	14210	0.82
1	6/27/79	0	43	0.04	1.23	0.108	38	13720	0.78
1	6/27/79	0	45	0.04	1.14	0.100	60	14280	0.72
1	6/27/79	1	5	0.07	1.52	0.137	44	9463	1.20
1	6/27/79	1	10	0.07	2.28	0.129	49	6268	1.42
1	6/27/79	1	16	0.09	2.64	0.118	83	4052	1.65
1	7/ 3/79	8	2	0.04	1.32	0.058	143	8104	1.60
1	7/ 3/79	8	6	0.05	0.99	0.064	140	6221	1.20
1	7/ 3/79	8	15	0.03	0.97	0.061	128	8002	1.16
1	7/ 3/79	8	25	0.03	1.78	0.055	153	4611	1.74
1	7/ 3/79	8	32	0.04	2.04	0.070	148	4871	2.12
1	7/ 3/79	8	46	0.03	1.37	0.064	153	30870	1.32
1	7/ 3/79	8	53	0.07	1.10	0.075	160	29970	1.06
1	7/ 3/79	8	55	0.04	0.95	0.074	155	25440	1.00

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
1	7/ 3/79	8	57	0.03	0.94	0.075	53	24940	0.84
1	7/ 3/79	8	59	0.01	1.22	0.075	58	27630	0.96
1	7/ 3/79	9	0	0.11	1.09	0.071	134	26760	1.16
1	7/ 3/79	9	2	0.01	1.60	0.061	47	25400	1.18
1	7/ 3/79	9	4	0.01	2.35	0.050	165	20730	1.37
1	7/ 3/79	9	6	0.0	2.25	0.048	130	19680	1.25
1	7/ 3/79	9	8	0.01	3.18	0.048	163	21930	1.75
1	7/ 3/79	9	10	0.0	2.93	0.051	204	21420	1.65
1	7/ 3/79	9	12	0.0	3.18	0.051	175	18080	1.67
1	7/ 3/79	9	14	0.0	3.79	0.051	168	17350	2.79
1	7/ 3/79	9	16	0.0	6.16	0.042	212	17460	2.91
1	7/ 3/79	9	18	0.03	4.01	0.039	215	15430	2.75
1	7/ 3/79	9	20	0.0	1.92	0.061	157	9352	1.39
1	7/ 3/79	9	26	0.02	3.19	0.046	158	38310	1.96
1	7/ 3/79	9	28	0.02	1.97	0.059	143	38940	1.33
1	7/ 3/79	9	30	0.02	0.82	0.067	160	33740	0.70
1	7/ 3/79	9	32	0.01	1.12	0.064	71	44220	0.74
1	7/ 3/79	9	34	0.02	0.96	0.092	41	37260	0.97
1	7/ 3/79	9	36	0.02	0.78	0.078	146	40280	0.55
1	7/ 3/79	9	38	0.01	0.96	0.081	148	57000	0.45
1	7/ 3/79	9	40	0.02	0.76	0.078	137	52240	0.45
1	7/ 3/79	9	42	0.01	0.79	0.081	132	43460	0.39
1	7/ 3/79	9	44	0.04	0.79	0.099	67	39140	0.67
1	7/ 3/79	9	46	0.01	0.56	0.071	51	46520	2.91
1	7/ 3/79	9	48	0.01	0.58	0.079	130	43900	0.31
1	7/ 3/79	9	50	0.0	0.83	0.094	149	34480	0.35
1	7/ 3/79	9	52	0.01	0.85	0.085	140	38470	0.55
1	7/ 3/79	9	54	0.01	0.94	0.000	56	28900	0.49
1	7/ 3/79	9	56	0.0	1.57	0.077	17	25000	0.79
1	7/ 3/79	9	58	0.01	1.96	0.061	14	20200	0.84
1	7/ 3/79	10	6	0.04	2.49	0.104	76	8062	1.81
1	7/ 3/79	10	11	0.02	2.38	0.070	28	5023	1.39
1	7/ 3/79	10	17	0.03	3.37	0.072	84	1944	2.43
1	7/ 3/79	20	54	0.01	3.15	0.079	52	50000	2.02
1	7/ 3/79	20	56	0.01	2.28	0.081	30	45770	2.28
1	7/ 3/79	20	58	0.01	1.42	0.095	18	35770	0.81
1	7/ 3/79	21	0	0.0	1.06	0.105		29660	3.23
1	7/ 3/79	21	2	0.0	1.07	0.105		26320	2.04
1	7/ 3/79	21	4	0.0	2.11	0.106		22800	0.78
1	7/ 3/79	21	6	0.0	1.24	0.098		20500	0.91
1	7/ 3/79	21	8	0.01	1.28	0.102		17860	2.72
1	7/ 3/79	21	15	0.0	1.44	0.108		7310	2.15
1	7/ 3/79	21	25	0.0	3.83	0.077		5769	5.61
1	7/ 3/79	21	37	0.0	4.96	0.063	36	5493	2.95
1	7/13/79	10	1	0.05	2.32	0.062	83	8155	3.46
1	7/13/79	10	9	0.04	1.95	0.063	77	6863	3.95
1	7/13/79	10	22	0.03	1.67	0.064	64	3683	2.31
1	7/13/79	20	9	0.04	1.60	0.058	95	65570	1.56
1	7/13/79	20	15	0.02	0.45	0.099	37	20540	0.97
1	7/13/79	20	20	0.05	0.59	0.101	46	10660	0.91
1	7/13/79	20	24	0.01	0.90	0.123	34	8344	1.28
1	7/13/79	20	31	0.01	1.14	0.110	42	4354	1.11

TABLE F2- 1. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
1	7/14/79	0	50	0.01	0.30	0.075	63	40520	1.02
1	7/14/79	0	53	0.01	0.33	0.081	75	32420	0.64
1	7/14/79	0	58	0.0	0.26	0.094	55	20850	1.09
1	7/14/79	1	4	0.01	0.42	0.087	62	17240	0.71
1	7/14/79	1	9	0.0	0.41	0.087	26	20470	0.49
1	7/14/79	1	16	0.0	0.36	0.090	27	40860	0.64
1	7/14/79	1	21	0.03	0.43	0.084	59	20540	0.55
1	7/14/79	1	26	0.05	0.48	0.080	43	14740	0.84
1	7/14/79	1	35	0.04	0.64	0.081	74	18950	0.75
1	7/14/79	1	42	0.04	0.72	0.073	31	15640	1.10
1	7/14/79	1	51	0.07	0.63	0.080	163	16720	0.82
1	7/14/79	1	59	0.0	0.75	0.118	34	10580	0.55
1	7/14/79	2	7	0.0	0.82	0.130	42	5818	5.24
1	8/19/79	6	2	0.11	0.37	0.142	34	8467	0.24
1	8/19/79	6	6	0.05	0.33	0.092	37	9135	0.24
1	8/19/79	6	43	0.01	0.40	0.121	48	1859	0.26
1	8/19/79	6	48	0.0	0.42	0.119	37	1415	0.24
1	8/19/79	21	6	0.06	0.64	0.075	70	14630	0.0
1	8/19/79	21	11	0.04	0.61	0.082	78	7107	0.40
1	8/19/79	21	17	0.04	0.61	0.106	40	6284	0.26
1	8/19/79	21	27	0.02	0.34	0.093	42	6610	0.24
1	8/19/79	21	36	0.01	0.28	0.101	38	7789	0.33
1	8/19/79	21	41	0.01	0.25	0.107	43	5992	0.17
1	8/19/79	21	50	0.01	0.29	0.116	36	3934	0.33
1	8/19/79	22	3	0.01	0.27	0.127	62	2849	0.31
1	8/19/79	22	9	0.01	0.32	0.128	47	1788	0.02
1	8/19/79	22	23	0.01	0.35	0.094	55	10930	0.52
1	8/19/79	22	31	0.0	0.18	0.127	42	12380	0.17
1	8/19/79	22	37	0.0	0.20	0.116	29	6196	0.28
1	8/19/79	22	42	0.03	0.21	0.118	31	4646	0.15
1	8/19/79	22	47	0.02	0.22	0.124	25	3042	0.17
1	8/19/79	23	7	0.02	0.46	0.101	29	2466	0.15
1	8/19/79	23	14	0.03	0.35	0.105	18	2784	0.71
1	8/21/79	18	49	0.04	0.76	0.051	72	23420	2.22
1	8/21/79	18	52	0.03	0.59	0.051	60	19710	0.99
1	8/21/79	18	55	0.03	0.41	0.063	46	20760	1.57
1	8/21/79	18	58	0.12	0.33	0.075	34	11540	1.09
1	8/21/79	19	1	0.03	0.30	0.086	41	9835	0.99
1	8/21/79	19	3	0.03	0.25	0.084	29	8640	0.91
1	8/21/79	19	5	0.03	0.25	0.091	9	8337	0.89
1	8/21/79	19	8	0.08	0.38	0.049	64	6685	1.09
1	8/21/79	19	10	0.02	0.30	0.067	36	6675	0.83
1	8/21/79	19	12	0.02	0.27	0.075	21	7786	1.38
1	8/21/79	19	14	0.03	0.28	0.079	44	6898	1.18
1	8/21/79	19	17	0.05	0.30	0.090	69	7122	1.22
1	8/21/79	19	20	0.02	0.30	0.075	9	5174	0.92
1	8/21/79	19	24	0.03	0.31	0.076	18	3763	0.99
1	8/21/79	19	25	0.03	0.27	0.096	9	3815	0.79
1	8/21/79	19	30	0.02	0.28	0.054	10	3516	1.21
1	8/21/79	19	39	0.02	0.30	0.099	0	2141	1.44
1	8/21/79	19	51	0.04	0.88	0.069	25	1564	1.51
1	10/22/79	5	58	0.38	0.0	0.130	47	2489	4.60

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					

TABLE F2- 2. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1979 SITE 2

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
2	3/16/79	16	55	0.11	1.00	0.081	68	81	3.92
2	3/16/79	19	20	0.10	0.70	0.345	105	114	6.72
2	3/17/79	10	35	0.11	1.10	0.329	109	110	6.83
2	3/17/79	11	32	0.23	1.06	0.145	101	94	6.15
2	3/17/79	15	30	0.10		0.227	30	93	7.60
2	3/17/79	16	30	0.15	1.41	0.263	58	102	5.89
2	3/17/79	17	30	0.16		0.211	62	99	5.77
2	3/17/79	18	30	0.14		0.267	53	94	6.37
2	3/17/79	19	30	0.13		0.258	59	93	6.91
2	3/17/79	20	30	0.14	1.31	0.258	46	91	7.44
2	3/17/79	21	30	0.12		0.234	53	94	5.70
2	3/17/79	22	30	0.14		0.234	30	96	5.48
2	3/17/79	23	30	0.13	1.25	0.230	41	87	5.50
2	3/18/79	0	30	0.16		0.229	28	92	7.60
2	3/18/79	1	30	0.16		0.316	33	75	7.66
2	3/18/79	2	30	0.25	1.23	0.245	25	61	7.85
2	3/18/79	3	30	0.24	1.29	0.205	43	61	6.74
2	3/18/79	4	30	0.17	1.31	0.271	40	83	12.90
2	3/18/79	5	30	0.30	1.03	0.178	44	68	5.61
2	3/18/79	6	30	0.20	1.19	0.137	67	86	6.10
2	3/18/79	7	30	0.15		0.132	59	69	5.98
2	3/18/79	8	30	0.14	1.16	0.140	60	79	5.17
2	3/18/79	9	30	0.18		0.133	63	86	5.87
2	3/18/79	10	30	0.37	0.70	0.200	62	94	9.46
2	3/18/79	11	30	0.14	0.93	0.118	64	86	4.43
2	3/18/79	12	31	0.11	1.01	0.103	68	95	4.09
2	3/18/79	13	30	0.16	0.85	0.115	106	114	10.46
2	3/18/79	14	30	0.06		0.087	102	106	5.17
2	3/18/79	15	30	0.18		0.107	100	108	6.54
2	3/18/79	16	30	0.13		0.073	98	114	11.07
2	3/18/79	17	30	0.04		0.083	85	107	6.44
2	3/18/79	18	30	0.16	0.61	0.107	76	105	20.45
2	3/18/79	19	30	0.03	0.55	0.071	70	93	3.20
2	3/18/79	20	30	0.04		0.086	86	122	3.99
2	3/18/79	21	30	0.09		0.097	94	135	8.75
2	3/18/79	22	30	0.12		0.099	98	107	9.57
2	3/18/79	23	30	0.03		0.104	97	115	3.06
2	3/19/79	0	30	1.02		0.312	75	111	6.93
2	3/19/79	1	30	1.97	0.58	0.389	81	128	16.38
2	3/19/79	2	30	1.82	0.66	0.407	88	135	8.16
2	3/19/79	3	30	1.89	0.44	0.396	68	115	14.05
2	3/19/79	4	30	0.53	0.49	0.086	59	113	7.54
2	3/19/79	5	30	1.06	0.59	0.096	88	119	14.18
2	3/19/79	6	30	0.66	0.66	0.096	63	105	6.25
2	3/19/79	7	30	0.68	0.56	0.088	61	83	25.67
2	3/19/79	8	30	0.47		0.211	56	79	7.54
2	3/19/79	9	30	0.44		0.184	58	70	10.84
2	3/19/79	10	30	0.11		0.191	57	86	8.80
2	3/19/79	11	30	0.69		0.248	60	71	12.40
2	3/19/79	12	30	0.45		0.188	68	93	3.61
2	3/19/79	13	30	0.16	0.96	0.214	37	116	3.76
2	3/19/79	14	30	0.24	0.94	0.225	16	91	4.11
2	3/19/79	15	30	0.21	1.02	0.214	26	109	7.62
2	3/19/79	16	30	0.32	0.70	0.214	23	96	16.18
2	3/19/79	17	30	0.07	1.11	0.177	16	95	4.96
2	3/19/79	18	30	0.10	1.11	0.150	20	90	4.01
2	3/28/79	18	5	0.28	1.30	0.146	85	106	3.80
2	3/28/79	23	59	0.12	1.25	0.248	93	112	3.69
2	3/29/79	5	7	0.11	1.21	0.243	120	520	6.01
2	3/29/79	8	52	0.02	1.91	0.356	125	292	24.00
2	3/29/79	10	29	0.06	1.63	0.243	120	219	6.20
2	3/29/79	11	40	0.01	1.64	0.277	124	190	7.00
2	3/29/79	12	20	0.06	1.55	0.223	128	192	12.64
2	3/29/79	13	49	0.07	1.94	0.189	108	216	5.46
2	3/29/79	14	29	0.10	1.83	0.207	113	182	5.22
2	3/29/79	15	45	0.06	1.76	0.218	108	199	8.23
2	3/29/79	16	30	0.0	1.62	0.180	125	168	5.51
2	3/29/79	16	40	0.0	1.79	0.239	130	366	4.69
2	3/29/79	18	30	0.0	1.68	0.173	136	176	5.39
2	3/29/79	20	19	0.02	1.81	0.172	121	423	4.46
2	3/29/79	21	16	0.01	1.63	0.205	129	295	4.49
2	3/29/79	21	54	0.07	1.58	0.216	113	257	5.06
2	3/29/79	23	30	0.0		0.234	106	170	21.67
2	3/30/79	1	30	0.0	0.65	0.198	86	135	4.92
2	4/20/79	4	27	0.21	0.50	2.910	90	490	10.58
2	4/20/79	13	6	0.57	1.38	2.970	98	1223	14.22
2	6/12/79	17	55	0.10	1.23	0.084	53	8968	0.80
2	6/12/79	17	58	0.08	1.26	0.081	62	11720	0.70
2	6/12/79	18	1	0.09	1.38	0.082	67	14370	0.79
2	6/12/79	18	2	0.12	1.01	0.107	39	42530	0.94
2	6/12/79	18	4	0.11	1.06	0.091	57	58110	1.03
2	6/12/79	18	6	0.13	1.06	0.097	54	84780	1.05
2	6/12/79	18	7	0.15	1.20	0.102	71	75950	1.42
2	6/12/79	18	8	0.21	1.26	0.106	71	91200	1.56
2	6/12/79	18	10	0.12	1.49	0.167	192	82400	1.26
2	6/12/79	18	14	0.11	1.24	0.126	192	73940	1.03
2	6/12/79	18	18	0.08	1.07	0.121	71	52740	0.80
2	6/12/79	18	24	0.04	1.07	0.118	64	37500	0.94
2	6/12/79	18	28	0.05	0.99	0.110	60	25270	0.82
2	6/12/79	18	40	0.05	1.49	0.175	10	9535	1.57
2	6/12/79	18	45	0.08	1.68	0.124	37	6858	1.80
2	6/12/79	18	50	0.03	1.86	0.138	13	4627	1.89
2	6/12/79	18	55	0.05	2.15	0.148	27	3455	2.22
2	6/12/79	19	3	0.06	2.35	0.169	37	2282	2.41
2	6/12/79	19	8	0.07	2.44	0.165	46	1784	2.55
2	6/27/79	0	11	0.07	1.19	0.063	85	43340	1.02
2	6/27/79	0	12	0.08	1.19	0.070	72	35740	0.74
2	6/27/79	0	14	0.07	3.23	0.109	124	70390	6.36
2	6/27/79	0	16	0.07	2.70	0.146	121	79440	1.79
2	6/27/79	0	20	0.04	2.44	0.118	105	55940	0.97
2	6/27/79	0	23	0.02	1.94	0.117	104	38400	0.83
2	6/27/79	0	25	0.03	1.80	0.171	105	36320	0.96
2	6/27/79	0	27	0.03	1.58	0.149	84	36270	0.82
2	6/27/79	0	30	0.03	1.39	0.116	70	31270	0.75

TABLE F2- 2. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
2	6/27/79	0	32	0.02	1.31	0.123	80	27490	0.75
2	6/27/79	0	34	0.02	1.17	0.117	131	25860	0.82
2	6/27/79	0	37	0.02	1.07	0.110	57	27310	0.65
2	6/27/79	0	39	0.02	0.94	0.118	66	27320	0.64
2	6/27/79	0	41	0.01	0.89	0.108	87	26970	0.77
2	6/27/79	0	44	0.01	0.76	0.105	54	30840	0.66
2	6/27/79	0	46	0.02	0.76	0.110	65	32670	0.74
2	6/27/79	0	48	0.0	0.70	0.136	62	29700	0.68
2	6/27/79	0	51	0.01	0.67	0.143	28	28150	0.64
2	6/27/79	0	53	0.01	0.69	0.137	180	29220	0.54
2	6/27/79	1	1	0.01	0.89	0.140	69	16600	3.09
2	6/27/79	1	6	0.02	0.99	0.143	57	11520	0.82
2	6/27/79	1	11	0.02	1.38	0.131	69	7430	3.34
2	6/27/79	1	17	0.03	1.80	0.128	73	6233	1.46
2	6/27/79	1	21	0.04	2.13	0.131	60	1449	13.24
2	7/ 3/79	8	0	0.16	0.94	0.061	77	8096	1.89
2	7/ 3/79	8	4	0.16	0.90	0.052	15	3999	1.10
2	7/ 3/79	8	12	0.06	0.56	0.049	13	5139	0.79
2	7/ 3/79	8	23	0.03	1.84	0.075	120	7252	1.91
2	7/ 3/79	8	30	0.04	2.59	0.063	70	7319	2.63
2	7/ 3/79	8	36	0.05	2.38	0.065	99	3806	3.11
2	7/ 3/79	8	41	0.05	2.30	0.058	158	4039	3.01
2	7/ 3/79	8	45	0.08	2.32	0.055	82	6896	2.44
2	7/ 3/79	8	49	0.03	1.35	0.037	138	30520	1.08
2	7/ 3/79	8	50	0.03	1.50	0.039	73	26130	1.38
2	7/ 3/79	8	52	0.05	1.49	0.064	75	45440	1.28
2	7/ 3/79	8	54	0.05	2.00	0.072	133	58500	1.08
2	7/ 3/79	8	56	0.05	2.00	0.096	45	72590	1.25
2	7/ 3/79	8	58	0.04	2.01	0.109	48	57690	1.06
2	7/ 3/79	9	0	0.04	1.75	0.095	80	47600	1.53
2	7/ 3/79	9	2	0.03	1.78	0.080	19	41160	0.91
2	7/ 3/79	9	4	0.03	1.59	0.084	15	40770	0.76
2	7/ 3/79	9	6	0.04	1.52	0.087	8	37720	0.82
2	7/ 3/79	9	8	0.04	1.78	0.113	49	35150	0.94
2	7/ 3/79	9	11	0.05	1.69	0.101	46	35060	3.66
2	7/ 3/79	9	13	0.03	1.90	0.097	6	31990	1.14
2	7/ 3/79	9	15	0.03	2.25	0.101	11	23360	1.63
2	7/ 3/79	9	17	0.04	2.37	0.097	0	19940	1.38
2	7/ 3/79	9	19	0.02	2.62	0.091	12	18220	1.26
2	7/ 3/79	9	21	0.02	2.65	0.075	152	16750	1.38
2	7/ 3/79	9	23	0.03	2.41	0.088	162	15740	1.24
2	7/ 3/79	9	25	0.02	2.13	0.058	164	27070	1.12
2	7/ 3/79	9	27	0.02	1.87	0.069	162	48000	0.86
2	7/ 3/79	9	29	0.02	1.14	0.071	31	84650	0.60
2	7/ 3/79	9	32	0.02	1.46	0.063	143	66870	0.54
2	7/ 3/79	9	34	0.02	1.36	0.074	144	89330	0.47
2	7/ 3/79	9	36	0.03	1.45	0.097	29	101100	0.60
2	7/ 3/79	9	38	0.05	1.08	0.109	181	116700	0.60
2	7/ 3/79	9	40	0.03	1.20	0.087	186	100300	0.41
2	7/ 3/79	9	43	0.03	0.92	0.058	82	81520	0.33
2	7/ 3/79	9	45	0.03	1.25	0.056	59	83660	0.09
2	7/ 3/79	9	47	0.02	1.12	0.066	186	72850	0.90
2	7/ 3/79	9	49	0.01	1.11	0.055	156	62840	0.77
2	7/ 3/79	9	51	0.04	1.15	0.065	145	59230	0.81
2	7/ 3/79	9	53	0.03	1.32	0.074	157	82610	0.90
2	7/ 3/79	9	55	0.02	1.34	0.075	139	62010	1.04
2	7/ 3/79	9	57	0.03	1.70	0.081	146	52560	1.28
2	7/ 3/79	9	59	0.02	1.79	0.095	89	33280	0.69
2	7/ 3/79	10	2	0.04	1.81	0.093	85	21750	0.75
2	7/ 3/79	10	8	0.04	2.07	0.102	72	18480	0.83
2	7/ 3/79	10	14	0.04	2.38	0.085	151	16220	2.53
2	7/ 3/79	10	19	0.05	2.17	0.106	147	8427	1.69
2	7/ 3/79	10	28	0.03	2.13	0.104	168	7054	1.60
2	7/ 3/79	20	48	0.06	1.01	0.092	83	119100	2.19
2	7/ 3/79	20	49	0.05	1.11	0.090	87	108300	1.54
2	7/ 3/79	20	50	0.03	1.16	0.060	27	105000	0.72
2	7/ 3/79	20	51	0.05	1.42	0.096	80	103400	1.35
2	7/ 3/79	20	53	0.03	1.39	0.103	126	87390	1.01
2	7/ 3/79	21	0	0.04	0.89	0.112	77	47220	1.43
2	7/ 3/79	21	4	0.01	0.94	0.105	52	30850	1.20
2	7/ 3/79	21	10	0.01	1.04	0.090	55	22170	0.74
2	7/ 3/79	21	15	0.0	1.31	0.079	54	15880	0.72
2	7/ 3/79	21	20	0.05	1.44	0.087	55	12230	1.39
2	7/ 3/79	21	26	0.0	1.77	0.065	50	12140	1.07
2	7/ 3/79	21	32	0.0	1.99	0.064	55	12600	1.02
2	7/ 3/79	21	39	0.01	2.28	0.075	57	9547	1.30
2	7/ 3/79	21	44	0.02	2.35	0.085	62	7749	1.30
2	7/ 3/79	21	51	0.08	2.31	0.083	61	7061	2.10
2	7/13/79	9	59	0.05	1.28	0.050	67	9869	2.16
2	7/13/79	10	7	0.01	1.20	0.050	54	8485	4.21
2	7/13/79	10	18	0.03	2.36	0.058	61	3084	3.51
2	7/13/79	20	6	0.09	1.25	0.053	65	76820	0.94
2	7/13/79	20	8	0.09	0.92	0.075	82	75700	0.55
2	7/13/79	20	10	0.08	0.73	0.084	89	50220	0.61
2	7/13/79	20	12	0.06	0.67	0.064	66	39930	0.51
2	7/13/79	20	14	0.06	0.63	0.069	68	42030	0.57
2	7/13/79	20	16	0.05	0.67	0.074	79	29220	3.24
2	7/13/79	20	18	0.05	0.67	0.074	74	21930	0.66
2	7/13/79	20	20	0.03	0.70	0.071	70	18040	0.62
2	7/13/79	20	22	0.03	0.73	0.081	71	17580	0.48
2	7/13/79	20	29	0.01	0.90	0.069	17	9703	5.50
2	7/13/79	20	35	0.01	0.98	0.075	38	7027	0.85
2	7/13/79	20	38	0.01	1.06	0.074	69	5132	0.79
2	7/14/79	0	50	0.02	0.72	0.045	54	63080	0.72
2	7/14/79	0	52	0.03	0.63	0.051	82	69610	4.21
2	7/14/79	0	55	0.03	0.51	0.079	55	52130	0.43
2	7/14/79	0	57	0.09	0.39	0.072	50	48780	1.08
2	7/14/79	0	59	0.03	0.36	0.073	41	37160	1.09
2	7/14/79	1	1	0.01	0.48	0.074	50	33060	0.36
2	7/14/79	1	3	0.01	0.48	0.073	31	34250	0.43
2	7/14/79	1	6	0.02	0.48	0.072	35	31870	0.54
2	7/14/79	1	8	0.01	0.49	0.059	87	42290	0.49
2	7/14/79	1	11	0.02	0.48	0.075	122	36710	0.53
2	7/14/79	1	16	0.01	0.49	0.065	112	37830	0.36

TABLE F2- 2. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				----------	----------	PPM	----------	----------	----------
2	7/14/79	1	21	0.01	0.39	0.074	82	18850	0.36
2	7/14/79	1	23	0.01	0.70	0.059	111	31250	1.90
2	7/14/79	1	25	0.02	0.51	0.075	104	39590	0.71
2	7/14/79	1	29	0.0	0.71	0.069	92	28240	1.02
2	7/14/79	1	44	0.0	0.71	0.055	77	27320	0.44
2	7/14/79	1	49	0.07	0.57	0.054	72	29350	0.95
2	7/14/79	1	53	0.02	0.64	0.072	67	18760	2.54
2	7/14/79	2	11	0.04	0.70	0.068	60	7288	1.00
2	8/19/79	6	40	0.0	1.31	0.073	46	940	1.09
2	8/19/79	6	46	0.0	1.62	0.083	30	650	1.57
2	8/19/79	21	4	0.06	0.59	0.035	51	13640	0.0
2	8/19/79	21	10	0.03	0.67	0.036	53	7748	0.0
2	8/19/79	21	16	0.02	0.69	0.044		3608	0.09
2	8/19/79	21	25	0.03	0.50	0.045		6801	0.24
2	8/19/79	21	33	0.01	0.46	0.044		5518	0.0
2	8/19/79	21	39	0.01	0.47	0.063		3010	0.15
2	8/19/79	21	48	0.01	0.45	0.053		4952	0.04
2	8/19/79	22	1	0.02	0.56	0.085	33	1211	0.43
2	8/19/79	22	21	0.01	0.46	0.040	48	16960	0.0
2	8/19/79	22	26	0.01	0.32	0.049	44	7518	0.0
2	8/19/79	22	34	0.01	0.40	0.070	34	2332	0.22
2	8/19/79	22	39	0.03	0.43	0.076	49	1901	0.47
2	8/19/79	23	2	0.0	0.46	0.051	48	2643	0.09
2	8/21/79	18	49	0.05	0.60	0.033	16	16500	0.58
2	8/21/79	18	52	0.05	0.50	0.027	6	12710	0.34
2	8/21/79	18	54	0.06	0.45	0.047	3	9662	0.57
2	8/21/79	18	56	0.04	0.45	0.039	40	7308	0.32
2	8/21/79	19	0	0.04	0.44	0.045	21	7905	0.38
2	8/21/79	19	2	0.08	0.43	0.054	3	7335	0.75
2	8/21/79	19	4	0.06	0.41	0.048	28	6640	0.60
2	8/21/79	19	6	0.06	0.41	0.063	27	6310	0.66
2	8/21/79	19	8	0.06	0.43	0.059	20	5398	0.75
2	8/21/79	19	11	0.06	0.43	0.061	35	5557	8.89
2	8/21/79	19	13	0.04	0.44	0.064	37	5458	0.58
2	8/21/79	19	15	0.05	0.42	0.053	33	5583	0.83
2	8/21/79	19	18	0.05	0.42	0.049	43	4742	0.48
2	8/21/79	19	22	0.05	0.45	0.078	41	3103	0.97
2	8/21/79	19	27	0.04	0.43	0.066	18	2141	0.54
2	8/21/79	19	32	0.04	0.50	0.072	16	2120	0.73
2	8/21/79	19	37	0.05	0.55	0.083	28	1878	1.30
2	8/21/79	19	48	0.05	0.71	0.080	32	4538	1.49
2	8/21/79	19	59	0.07	0.80	0.086	50	1759	1.61
2	11/21/79	20	0	0.01	3.48	0.045	1899	4323	2.08

TABLE F2- 3. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1979 SITE 3

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				ppm					
3	3/16/79	16	45	0.76	2.11	0.376	156	1091	6.25
3	3/16/79	18	1	0.45	0.34	0.862	69	71	1.26
3	3/17/79	13	5	0.51	0.88	0.794	41	63	1.30
3	3/17/79	15	30	0.33	0.0	1.113	47	87	1.00
3	3/17/79	16	30	0.36	0.65	1.191	64	85	1.26
3	3/17/79	17	30	0.43		1.252	77	78	1.14
3	3/17/79	18	30	0.48	0.53	1.252	60	79	1.66
3	3/17/79	19	30	0.51	0.81	1.287	59	88	1.64
3	3/17/79	20	30	0.51		1.292	61	67	1.27
3	3/17/79	21	30	0.43	0.68	1.272	66	76	1.66
3	3/17/79	22	30	0.53	0.05	1.357	37	71	2.96
3	3/17/79	23	30	0.50	0.78	1.362	75	80	1.39
3	3/18/79	0	30	0.53	0.0	1.367	79	84	5.24
3	3/18/79	1	30	0.51	0.81	1.372	61	73	1.59
3	3/18/79	2	30	0.58	1.30	1.549	70	109	2.22
3	3/18/79	3	30	0.49	1.29	1.519	72	93	2.39
3	3/18/79	4	30	0.39	1.26	1.543	111	138	2.76
3	3/18/79	5	30	0.53	1.33	1.489	116	125	2.51
3	3/18/79	7	30	0.50	1.19	1.327	127	127	2.19
3	3/18/79	8	30	0.37	1.00	1.252	125	166	6.79
3	3/18/79	9	30	0.33	1.17	1.212	124	128	2.00
3	3/18/79	10	30	0.50	1.24	1.342	103	150	1.95
3	3/18/79	11	30	0.50	1.14	1.335	117	119	1.74
3	3/18/79	12	30	0.36	0.52	0.851	40	96	2.15
3	3/18/79	13	30	0.39	0.54	1.008	33	88	3.96
3	3/18/79	14	30	0.36	0.49	1.089	23	89	1.54
3	3/18/79	15	30	0.45	1.17	1.146	50	98	4.96
3	3/18/79	16	30	0.81		1.145	56	101	6.52
3	3/18/79	17	30	0.72		1.090	60	78	11.19
3	3/18/79	18	30	1.14	0.91	0.972	80	94	11.91
3	3/18/79	19	30	0.58	1.14	0.842	104	112	1.90
3	3/18/79	20	30	0.30	0.93	0.852	68	82	2.00
3	3/18/79	21	30	0.26	0.83	0.813	48	95	3.06
3	3/18/79	22	30	0.94	0.96	0.755	56	87	2.36
3	3/18/79	23	30	0.43	1.10	0.710	45	91	2.81
3	3/19/79	0	30	0.30	1.19	0.710	39	79	2.86
3	3/19/79	1	30	0.26		0.790	121	134	11.43
3	3/19/79	2	30	0.49	1.30	0.705	132	447	1.93
3	3/19/79	3	30	0.51	1.37	0.689	121	129	4.02
3	3/19/79	4	30	0.82	1.52	0.726	132	135	3.07
3	3/19/79	6	0	0.46	1.43	0.663	139	166	11.43
3	3/19/79	8	0	0.43	1.52	0.657	126	131	3.68
3	3/19/79	10	0	0.13	1.28	0.671	124	151	5.41
3	3/19/79	12	15	0.08	1.40	0.641	18	76	2.20
3	3/19/79	14	15	0.04	1.09	0.663	33	79	2.81
3	3/19/79	16	15	0.18	1.26	0.605	8	81	2.39
3	3/19/79	18	15	0.23	1.50	0.580	8	81	3.92
3	3/19/79	20	15	0.16	2.09	0.625	34	50	6.06
3	3/19/79	22	15	0.68	2.62	0.722	49	73	13.90
3	3/20/79	0	15	0.34	2.58	0.644	66	88	6.72
3	3/22/79	23	56	0.22	2.90	0.443	105	131	6.06
3	3/23/79	0	15	0.05	2.95	0.498	113	115	11.28
3	3/23/79	0	40	0.06	3.95	0.551	111	122	7.83
3	3/23/79	1	11	0.64	3.74	0.595	200	204	8.59
3	3/23/79	1	36	1.02	3.52	0.569	181	183	5.65
3	3/23/79	2	37	0.52	3.39	0.535	174	198	5.06
3	3/23/79	3	28	0.53	3.51	0.546	190	201	5.50
3	3/23/79	4	51	0.31	3.53	0.526	191	205	5.50
3	3/23/79	5	45	0.88	3.19	0.541	205	212	6.56
3	3/28/79	14	45	0.01	1.98	0.322	217	222	9.86
3	3/29/79	6	36	0.13	3.27	0.206	164	229	6.82
3	3/29/79	11	19	0.08	2.22	0.557	111	183	4.92
3	3/29/79	12	30	0.07	1.90	0.638	141	183	5.95
3	3/29/79	14	30	0.09	2.26	0.740	111	206	4.69
3	3/29/79	16	30	0.07	2.28	0.603	167	191	7.93
3	3/29/79	18	30	0.16	2.26	0.614	160	166	5.51
3	3/29/79	20	30	0.07	2.11	0.658	149	161	5.48
3	3/29/79	22	30	0.03	1.97	0.617	155	166	4.13
3	3/30/79	0	30	0.0	1.75	0.570	51	130	4.81
3	3/30/79	2	30	0.02	1.49	0.524	61	105	4.92
3	3/30/79	4	30	0.03	1.23	0.463	50	90	2.66
3	3/30/79	6	30	0.02	1.54	0.476	90	97	2.94
3	3/30/79	8	30	0.28	1.78	0.500	113	129	13.22
3	4/20/79	17	31	0.0		0.102	268	305	
3	7/ 3/79	9	42	0.17	0.37	0.626	0	57	2.98
3	7/ 3/79	9	43	0.42	0.33	0.774	0	85	2.60
3	7/ 3/79	9	43	0.29	0.49	0.769	0	82	2.69
3	7/ 3/79	9	45	0.24	0.25	0.891	0	93	2.17
3	7/ 3/79	9	51	0.11	0.18	0.745	0	89	1.79
3	7/14/79	1	31	0.56	0.38	0.868	234	256	8.51
3	7/14/79	1	32	0.50	0.52	0.897	138	323	3.35
3	7/14/79	1	43	0.29	0.48	0.811	135	156	1.94
3	8/21/79	19	11	0.41	0.54	1.326	79	337	8.62

TABLE F2- 4. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1979 SITE 4

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	1/ 1/79	17	31	0.05	9.49	0.010	292	458	15.65
4	1/ 2/79	18	12	0.34	10.51	0.013	271	443	19.81
4	1/ 3/79	17	7	0.07	11.44	0.013	310	490	18.04
4	1/ 4/79	17	35	0.10	11.73	0.013	286	456	19.40
4	1/ 5/79	17	27	0.09	12.13	0.013	312	445	19.97
4	1/ 6/79	17	25	0.08	11.63	0.013	294	469	18.93
4	1/ 7/79	17	56	0.31	11.84	0.015	293	455	28.27
4	1/ 8/79	17	43	0.06	11.71	0.013	315	493	26.38
4	1/ 9/79	17	32	0.08	10.80	0.014	310	465	21.81
4	1/10/79	18	0	0.06	10.44	0.014	260	419	18.77
4	1/11/79	17	17	0.01	10.86	0.013	287	482	20.12
4	1/14/79	17	25	0.09		0.011	161	445	7.56
4	1/16/79	17	23	0.08	11.21	0.008	302	496	11.79
4	1/18/79	18	0	0.05	11.34	0.004	206	476	3.48
4	1/20/79	17	52	0.05		0.004	194	459	2.96
4	1/22/79	18	17	0.09		0.004	286	455	5.72
4	1/24/79	17	49	0.10		0.006	282	466	4.85
4	1/26/79	18	14	0.10		0.005	246	429	8.89
4	1/28/79	18	13	0.08	10.84	0.008	334	460	13.26
4	1/30/79	17	33	0.04		0.011	385	479	6.02
4	2/ 1/79	18	22	0.09		0.003	175	430	4.12
4	2/ 3/79	18	1	0.08		0.009	294	438	4.46
4	2/ 5/79	17	13	0.05	10.28	0.003	180	423	2.47
4	2/ 7/79	17	33	0.05	5.91	0.003	155	284	4.60
4	2/ 9/79	17	32	0.05		0.019	269	405	6.35
4	2/11/79	17	28	0.06	10.00	0.008	157	383	6.06
4	2/13/79	17	20	0.05		0.004	242	335	6.91
4	2/15/79	17	17	0.03		0.008	203	427	6.25
4	2/17/79	17	9	0.05		0.008	226	324	5.41
4	2/19/79	17	20	0.06		0.008	179	369	8.06
4	2/21/79	17	59	0.15	9.65	0.010	310	388	8.64
4	2/23/79	17	31	0.45	8.46	0.037	347	420	21.31
4	2/25/79	17	22	0.24	8.63	0.006	331	398	24.69
4	2/27/79	18	4	0.24	9.11	0.016	329	398	18.12
4	3/ 1/79	17	24	0.15	8.40	0.029	322	393	15.78
4	3/ 3/79	10	7	0.67	7.16	0.117	264	412	11.98
4	3/ 3/79	17	45	0.65	6.80	0.111	257	422	11.31
4	3/ 4/79	10	5	1.25	5.37	0.265	231	437	9.33
4	3/ 4/79	17	50	1.19	6.64	0.244	235	518	10.36
4	3/ 5/79	9	3	1.13	6.33	0.329	242	429	11.74
4	3/ 5/79	17	20	1.17	6.76	0.263	231	484	11.86
4	3/ 6/79	9	42	1.32	5.32	0.362	239	375	22.32
4	3/ 6/79	13	56	1.30	7.46	0.298	251	557	13.09
4	3/ 6/79	17	22	1.35	7.48	0.336	250	474	13.55
4	3/ 7/79	9	39	1.48	7.94	0.380	275	384	14.56
4	3/ 7/79	17	47	1.40	6.68	0.353	271	410	13.40
4	3/ 8/79	9	44	1.36	6.73	0.360	273	420	13.86
4	3/ 8/79	17	52	1.49	8.41	0.358	271	423	15.91
4	3/ 9/79	11	0	1.67	8.74	0.344	328	448	16.10
4	3/ 9/79	17	36	1.60	7.93	0.307	323	496	15.00
4	3/10/79	17	44	1.57	8.24	0.292	337	435	16.77
4	3/11/79	17	47	1.16	8.05	0.202	325	436	16.60
4	3/11/79	18	2	1.13	9.30	0.189	335	539	17.17
4	3/12/79	13	17	0.78	7.09	0.164	242	429	9.94
4	3/12/79	17	47	1.05	5.61	0.211	273	464	11.16
4	3/13/79	9	24	1.23	3.91	0.259	183	585	8.66
4	3/13/79	17	34	1.60	3.38	0.268	174	1021	7.38
4	3/14/79	8	52	1.24	3.61	0.368	164	351	7.55
4	3/14/79	13	33	1.07	4.16	0.309	176	788	7.74
4	3/14/79	17	35	1.13	4.01	0.332	174	699	10.02
4	3/15/79	10	20	1.30	4.98	0.528	217	356	12.19
4	3/15/79	17	31	1.15	5.40	0.377	232	604	10.25
4	3/16/79	9	12	0.94	6.05	0.373	265	420	10.64
4	3/16/79	17	40	0.93	5.15	0.268	200	1376	10.02
4	3/17/79	8	34	0.87	3.03	0.245	133	1007	6.60
4	3/17/79	14	28	0.83	2.91	0.275	139	1042	5.74
4	3/17/79	20	37	0.91	2.22	0.234	99	1306	4.53
4	3/18/79	2	31	1.14	2.09	0.359	117	1170	5.74
4	3/18/79	9	4	1.54	2.28	0.441	126	1178	5.84
4	3/18/79	13	33	1.19	2.13	0.200	108	3026	5.62
4	3/18/79	17	48	1.36	2.54	0.314	116	1701	9.80
4	3/18/79	21	45	1.36	2.62	0.291	125	1786	8.58
4	3/19/79	3	13	1.36	2.80	0.320	158	1793	8.02
4	3/19/79	8	29	1.28	4.42	0.295	180	1742	8.54
4	3/19/79	13	19	1.36	4.24	0.305	206	1502	17.74
4	3/19/79	19	46	1.61	5.00	0.377	234	1208	21.53
4	3/20/79	2	23	0.86	7.58	0.219	274	873	12.34
4	3/20/79	8	29	0.45	8.76	0.138	232	650	12.88
4	3/20/79	17	12	0.55	8.88	0.161	288	655	17.27
4	3/21/79	2	17	0.23	9.02	0.068	276	548	15.61
4	3/21/79	10	46	0.09	9.19	0.062	291	504	13.25
4	3/21/79	17	56	0.12	9.14	0.053	282	502	13.93
4	3/22/79	8	31	0.29	9.50	0.109	302	484	21.20
4	3/22/79	13	31	0.48	9.40	0.094	287	445	21.20
4	3/22/79	18	17	0.52	8.71	0.035	262	460	19.54
4	3/23/79	8	49	2.03	8.02	0.518	301	1357	24.81
4	3/23/79	12	15	1.62	7.80	0.451	271	1611	16.84
4	3/23/79	15	24	1.49	8.36	0.333	198	2316	16.37
4	3/23/79	17	48	1.04	8.36	0.241	174	2217	19.07
4	3/23/79	22	25	0.73	8.60	0.231	246	982	14.27
4	3/25/79	12	50	0.26	11.10	0.070	266	698	15.82
4	3/25/79	17	20	0.19	10.19	0.068	261	801	15.41
4	3/26/79	8	43	0.16	10.58	0.048	271	465	16.20
4	3/26/79	17	56	0.06	10.72	0.092	264	423	20.82
4	3/27/79	8	51	0.08	11.03	0.051	263	382	16.06
4	3/27/79	17	43	0.07	10.09	0.068	263	407	19.67
4	3/28/79	9	12	0.11	10.36	0.101	293	372	16.76
4	3/28/79	17	28	0.75	8.21	0.195	300	1034	16.27
4	3/28/79	23	21	1.94	7.09	0.325	234	2635	16.07
4	3/29/79	4	29	1.17	7.61	0.228	256	1029	20.22
4	3/29/79	9	23	0.53	6.90	0.204	235	1250	9.21
4	3/29/79	13	9	1.22	6.44	0.252	197	5343	18.33
4	3/29/79	17	1	1.38	6.21	0.391	196	2735	30.04
4	3/29/79	22	17	0.85	6.66	0.293	186	2957	10.87

TABLE F2- 4. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	3/30/79	3	31	0.94	6.70	0.350	195	1684	11.45
4	3/30/79	6	25	0.41	9.78	0.177	248	857	12.43
4	3/30/79	8	48	0.75	8.30	0.295	221	1263	11.28
4	3/30/79	13	58	0.58	8.65	0.216	237	915	12.34
4	3/31/79	3	22	0.33	10.73	0.097	232	664	15.19
4	3/31/79	10	59	0.10	10.97	0.075	246	543	16.16
4	3/31/79	18	22	0.07	11.42	0.059	253	514	14.18
4	4/ 1/79	8	45	0.07	11.49	0.090	278	487	22.19
4	4/ 1/79	17	14	0.05	10.98	0.043	279	463	15.61
4	4/ 2/79	15	0	0.03	10.39	0.043	270	440	16.43
4	4/ 2/79	22	8	0.05	10.54	0.057	279	482	14.62
4	4/ 3/79	9	28	0.04	10.77	0.058	296	414	18.12
4	4/ 3/79	17	24	0.02	10.44	0.050	243	405	15.13
4	4/ 4/79	10	7	0.0	11.25	0.044	249	374	15.45
4	4/ 4/79	17	29	0.01	10.98	0.041	219	393	17.78
4	4/ 5/79	17	37	0.02	12.14	0.116	265	452	13.16
4	4/ 6/79	17	43	0.01	11.99	0.048	255	437	13.49
4	4/ 7/79	17	15	0.01	12.61	0.080	248	419	16.81
4	4/ 8/79	17	46	0.54	12.24	0.097	239	390	16.89
4	4/ 9/79	17	33	0.24	11.78	0.036	268	397	13.00
4	4/10/79	17	11	0.07	11.48	0.054	269	383	9.00
4	4/11/79	17	20	0.19	11.48	0.040	271	406	12.26
4	4/13/79	18	23	0.06	11.77	0.108	297	375	19.66
4	4/14/79	18	35	0.0	11.79	0.069	289	371	27.54
4	4/15/79	17	47	0.13	11.74	0.093	285	347	23.92
4	4/16/79	19	1	0.06	11.95	0.142	301	339	18.02
4	4/17/79	19	41	0.0	11.61	0.078	319	332	22.80
4	4/18/79	18	36	0.0	11.71	0.039	289	343	14.24
4	4/19/79	14	27	0.0	10.21	0.050	282	536	11.77
4	4/19/79	15	29	0.03	9.28	0.161	296	787	29.80
4	4/19/79	17	43	0.50	6.83	0.239	277	2381	18.15
4	4/19/79	21	3	0.38	9.31	0.252	338	833	17.65
4	4/20/79	11	42	0.44	6.20	0.036	207	5256	10.06
4	4/20/79	13	17	0.50	6.64	0.204	232	3756	18.07
4	4/20/79	19	23	0.78	6.73	0.209	234	4802	10.67
4	4/20/79	21	5	0.63	8.12	0.312	233	2511	10.95
4	4/21/79	8	10	0.11	12.63	0.153	306	909	17.81
4	4/21/79	17	45	0.08	13.26	0.113	275	698	19.58
4	4/22/79	17	10	0.03	13.58	0.037	300	497	14.78
4	4/23/79	19	30	0.0	13.75	0.106	272	533	21.70
4	4/24/79	17	59	0.02	15.17	0.021	274	440	15.89
4	4/25/79	17	50	0.06	14.68	0.029	276	537	14.21
4	4/26/79	18	17	0.03	15.45	0.042	311	444	15.50
4	4/27/79	17	49	0.02	16.98	0.047	278	407	16.36
4	4/28/79	17	45	0.02	17.08	0.023	270	392	16.14
4	4/29/79	18	3	0.02	15.04	0.019	270	424	15.50
4	4/30/79	17	21	0.02	15.22	0.020	290	385	16.50
4	5/ 1/79	17	55	0.05	14.64	0.145	301	404	16.77
4	5/ 2/79	15	17	0.05	11.82	0.056	302	482	12.79
4	5/ 2/79	17	26	0.12	8.43	0.088	251	1603	10.17
4	5/ 2/79	21	28	0.15	7.22	0.128	285	899	11.88
4	5/ 3/79	4	50	0.16	12.56	0.103	329	513	14.78
4	5/ 3/79	17	45	0.05	13.73	0.045	308	424	15.26
4	5/ 4/79	17	45	0.03	13.93	0.025	309	393	15.50
4	5/ 5/79	17	31	0.04	14.26	0.018	296	380	15.63
4	5/ 6/79	18	25	0.05	14.21	0.026	309	371	15.75
4	5/ 7/79	22	25	0.04	13.77	0.021	321	353	15.58
4	5/ 8/79	17	22	0.01	13.40	0.010	249	401	13.41
4	5/ 9/79	22	32	0.23	13.12	0.011	252	400	14.65
4	5/10/79	18	1	0.04	12.48	0.012	243	394	13.25
4	5/11/79	17	52	0.03	12.91	0.007	237	366	13.49
4	5/12/79	17	44	0.02	12.78	0.014	253	363	13.41
4	5/13/79	17	17	0.0	12.57	0.009	270	384	13.41
4	5/14/79	17	40	0.02	12.70	0.008	280	381	15.06
4	5/15/79	17	37	0.05	12.51	0.013	271	372	13.82
4	5/16/79	18	1	0.09	12.92	0.010	269	374	13.49
4	5/17/79	17	51	0.01	13.16	0.008	267	416	13.74
4	5/18/79	17	14	0.0	12.71	0.007	256	353	12.92
4	5/19/79	19	22	0.07	12.28	0.010	270	378	13.82
4	5/20/79	17	28	0.01	12.53	0.011	253	378	13.91
4	5/21/79	17	37	0.01	12.35	0.008	276	350	13.49
4	5/22/79	18	55	0.0	12.16	0.006	291	368	13.82
4	5/23/79	17	37	0.0	11.56	0.008	270	378	14.24
4	5/24/79	20	6	0.0	12.14	0.006	271	552	13.99
4	5/25/79	17	40	0.0	12.68	0.009	303	329	13.78
4	5/26/79	17	2	0.0	11.70	0.007	305	334	13.08
4	5/27/79	17	12	0.02	11.84	0.009	318	334	13.41
4	5/28/79	17	6	0.10	11.84	0.019	357	336	13.82
4	5/29/79	17	3	0.0	11.18	0.012	260	353	12.76
4	5/30/79	18	54	0.0	11.68	0.006	264	360	13.18
4	5/31/79	17	10	0.05	11.60	0.004	243	356	13.35
4	6/ 1/79	18	17	0.0	11.57	0.008	304	375	13.35
4	6/ 2/79	18	30	0.03	10.98	0.008	288	377	13.78
4	6/ 3/79	17	23	0.17	10.84	0.020	260	395	11.10
4	6/ 4/79	17	21	0.0	11.43	0.010	327	369	14.03
4	6/ 4/79	19	52	0.90	11.58	0.026	296	515	9.71
4	6/ 4/79	20	59	0.0	11.27	0.021	283	939	13.69
4	6/ 4/79	21	22	0.08	11.63	0.006	272	2214	13.69
4	6/ 4/79	21	52	0.06	11.60	0.006	230	7258	12.22
4	6/ 5/79	0	25	2.35	11.64	0.140	125	3859	6.70
4	6/ 5/79	5	22	0.0	11.19	0.004	294	1375	13.61
4	6/ 5/79	13	15	0.08	12.12	0.004	241	427	12.25
4	6/ 5/79	17	7	0.07	12.05	0.018	303	458	12.85
4	6/ 6/79	17	20	0.01	12.12	0.020	299	442	12.93
4	6/ 7/79	17	6	0.02	12.00	0.027	302	414	12.75
4	6/ 8/79	16	58	0.04	11.81	0.014	303	418	12.76
4	6/ 9/79	12	12	0.08	11.04	0.026	259	454	11.85
4	6/ 9/79	15	15	0.07	10.62	0.031	280	450	11.89
4	6/ 9/79	18	1	0.16	9.27	0.034	270	642	10.20
4	6/10/79	17	36	0.05	12.68	0.022	297	468	13.61
4	6/11/79	17	50	0.02	12.73	0.026	370	412	12.85
4	6/12/79	17	12	0.04	12.96	0.122	404	417	13.10
4	6/12/79	18	24	0.07	11.74	0.025	286	569	15.21
4	6/12/79	19	4	0.16	4.07	0.024	100	12570	3.36

TABLE F2- 4. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	6/12/79	19	25	0.37	8.14	0.035	303	10390	10.11
4	6/12/79	20	0	0.37	4.33	0.031	82	41870	2.62
4	6/12/79	21	3	0.41	4.94	0.078	94	19340	3.11
4	6/12/79	21	52	0.39	4.79	0.083	79	15210	3.20
4	6/12/79	23	6	0.38	5.20	0.084	91	14640	4.25
4	6/13/79	0	33	0.32	4.82	0.129	144	10310	4.02
4	6/13/79	1	56	0.29	4.87	0.116	144	8130	3.95
4	6/13/79	4	53	0.17	10.88	0.078	268	3148	7.24
4	6/13/79	8	14	0.15	13.09	0.062	359	1529	9.47
4	6/13/79	13	18	0.13	14.70	0.062	406	900	16.89
4	6/13/79	17	31	0.10	15.53	0.026	251	751	14.12
4	6/14/79	17	21	0.05	15.02	0.023	302	558	15.34
4	6/15/79	18	16	0.04	15.29	0.022	308	486	15.64
4	6/16/79	17	29	0.04	6.82	0.023	311	414	15.75
4	6/17/79	17	20	0.03	14.03	0.027	304	370	15.53
4	6/18/79	17	26	0.13	9.14	0.056	221	886	9.66
4	6/19/79	17	16	0.04	14.30	0.034	293	441	15.62
4	6/20/79	0	38	0.04	12.96	0.046	260	530	14.73
4	6/20/79	9	41	0.11	8.42	0.071	233	1621	8.88
4	6/20/79	19	27	0.04	14.01	0.027	278	417	15.34
4	6/21/79	17	50	0.03	13.87	0.027	305	373	16.16
4	6/22/79	17	9	0.02	14.03	0.017	276	313	16.14
4	6/23/79	17	53	0.01	14.41	0.025	282	345	15.26
4	6/24/79	17	20	0.01	14.49	0.018	319	369	16.86
4	6/25/79	18	19	0.0	14.25	0.026	316	400	16.00
4	6/26/79	17	16	0.0	14.37	0.034	349	401	16.55
4	6/27/79	4	35	0.21	4.14	0.092	85	17300	3.54
4	6/27/79	5	32	0.19	3.47	0.114	86	12620	3.52
4	6/27/79	7	40	0.27	4.15	0.053	117	4864	3.84
4	6/27/79	9	42	0.33	5.93	0.077	171	2836	7.34
4	6/27/79	11	46	0.29	9.56	0.111	243	1410	10.70
4	6/27/79	17	54	0.18	12.91	0.035	272	701	13.44
4	6/28/79	9	45	0.06	16.66	0.020	298	446	14.62
4	6/28/79	18	50	0.07	15.89	0.023	291	476	14.38
4	6/29/79	17	57	0.05	16.51	0.019	308	406	14.98
4	6/30/79	18	20	0.04	17.44	0.018	310	434	15.88
4	7/ 1/79	17	47	0.07	16.63	0.014	268	364	15.56
4	7/ 2/79	17	47	0.04	17.61	0.032	293	390	16.30
4	7/ 3/79	9	4	0.05	4.87	0.023	236	5292	5.50
4	7/ 3/79	10	4	0.02	2.14	0.030	44	15860	1.09
4	7/ 3/79	11	6	0.03	2.31	0.031	33	8067	0.83
4	7/ 3/79	12	18	0.15	2.37	0.057	36	7144	3.49
4	7/ 3/79	14	41	0.04	2.50	0.106	76	7654	2.08
4	7/ 3/79	18	30	0.17	3.35	0.069	166	4669	4.17
4	7/ 3/79	21	19	0.15	7.48	0.062	260	6196	9.97
4	7/ 3/79	22	11	0.16	7.63	0.030	307	18890	8.17
4	7/ 3/79	23	43	0.16	6.28	0.036	209	7197	6.77
4	7/ 4/79	0	40	0.11	6.31	0.071	199	6566	6.08
4	7/ 4/79	4	49	0.07	11.76	0.062	246	1687	9.95
4	7/ 4/79	11	20	0.0	14.19	0.012	283	785	12.94
4	7/ 4/79	18	52	0.04	15.88	0.050	382	977	14.14
4	7/ 5/79	17	47	0.02	16.52	0.044	408	648	14.43

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	7/ 6/79	17	3	0.0	16.51	0.027	390	525	14.56
4	7/ 7/79	18	27	0.0	16.61	0.021	386	474	14.68
4	7/ 8/79	17	58	0.01	16.61	0.026	393	471	14.85
4	7/ 9/79	18	24	0.0	16.40	0.024	417	459	15.01
4	7/10/79	17	51	0.0	16.12	0.009	309	426	14.85
4	7/11/79	17	34	0.0	15.62	0.014	396	447	15.18
4	7/12/79	18	9	0.0	15.44	0.029	359	417	14.89
4	7/13/79	10	51	0.0	14.42	0.035	433	439	14.27
4	7/13/79	17	27	0.03	13.76	0.043	413	436	16.45
4	7/13/79	21	0	0.0	13.55	0.010	420	469	13.94
4	7/13/79	22	0	0.08	13.15	0.087	289	980	13.36
4	7/14/79	1	58	0.07	1.90	0.046	141	14750	2.47
4	7/14/79	2	58	0.07	0.98	0.062	75	8454	0.89
4	7/14/79	3	34	0.04	1.23	0.096	81	5546	1.14
4	7/14/79	4	16	0.03	1.10	0.073	79	4204	0.92
4	7/14/79	5	34	0.03	1.33	0.099	75	5552	1.09
4	7/14/79	5	50	0.10	1.46	0.139	102	7245	1.74
4	7/14/79	9	6	0.06	1.57	0.107	73	3585	1.57
4	7/14/79	17	38	0.16	8.28	0.095	222	1512	8.23
4	7/15/79	18	39	0.05	15.66	0.029	303	574	15.63
4	7/16/79	17	9	0.03	15.81	0.018	291	462	18.74
4	7/17/79	18	30	0.05	15.61	0.015	293	400	13.68
4	7/18/79	17	41	0.03	15.64	0.015	282	430	13.71
4	7/19/79	17	12	0.04	15.61	0.030	290	420	13.60
4	7/20/79	16	49	0.04	15.13	0.011	275	380	16.13
4	7/21/79	17	17	0.04	14.86	0.018	266	403	13.93
4	7/22/79	17	42	0.02	14.15	0.021	314	365	13.69
4	7/23/79	17	52	0.05	12.39	0.035	297	363	13.85
4	7/24/79	18	7	0.05	13.43	0.029	251	327	13.84
4	7/25/79	17	53	0.05	13.43	0.053	260	393	13.93
4	7/26/79	17	2	0.09	13.55	0.095	281	412	15.18
4	7/27/79	17	50	0.06	13.31	0.082	293	403	14.39
4	7/28/79	18	5	0.06	13.06	0.085	277	409	20.94
4	7/29/79	18	11	0.05	12.72	0.107	284	392	14.84
4	7/30/79	18	11	0.03	12.69	0.035	285	430	16.03
4	7/31/79	17	23	0.02	12.46	0.019	254	369	14.54
4	8/ 1/79	17	58	0.01	12.46	0.016	300	401	14.80
4	8/ 2/79	18	7	0.01	9.34	0.019	231	306	16.13
4	8/ 3/79	17	38	0.07	12.27	0.009	310	425	23.55
4	8/ 4/79	18	20	0.06	12.13	0.012	274	409	24.35
4	8/ 5/79	17	47	0.06	11.73	0.014	301	421	24.35
4	8/ 6/79	18	7	0.04	11.39	0.016	316	427	20.04
4	8/ 7/79	17	38	0.08	10.75	0.017	307	442	21.47
4	8/ 8/79	17	51	0.07	9.73	0.018	303	419	17.13
4	8/ 9/79	17	55	0.12	10.48	0.021	304	406	16.15
4	8/10/79	17	29	0.08	10.93	0.022	311	428	16.00
4	8/11/79	18	7	0.04	10.85	0.014	308	412	18.53
4	8/12/79	17	36	0.03	10.67	0.009	306	420	17.02
4	8/13/79	17	47	0.04	10.93	0.014	316	445	20.43
4	8/14/79	17	28	0.08	10.43	0.009	294	377	15.69
4	8/15/79	17	32	0.03	10.30	0.004	275	371	17.75
4	8/16/79	18	18	0.04	10.10	0.003	316	385	19.22

TABLE F2- 4. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	8/17/79	17	59	0.07	9.00	0.006	306	389	17.70
4	8/18/79	17	9	0.07	4.43	0.013	307	430	18.58
4	8/19/79	7	40	0.31	4.50	0.026	221	1373	11.93
4	8/19/79	9	7	0.34	2.54	0.032	150	1596	7.21
4	8/19/79	11	32	0.29	3.84	0.088	188	906	7.31
4	8/19/79	14	30	1.18	4.70	0.147	235	846	16.71
4	8/19/79	17	52	0.39	5.90	0.067	241	622	10.78
4	8/19/79	22	40	0.39	6.33	0.085	232	744	10.90
4	8/19/79	23	50	0.16	6.08	0.064	199	1169	10.10
4	8/20/79	1	28	0.30	4.38	0.050	165	3232	8.26
4	8/20/79	5	40	0.43	4.68	0.133	161	823	8.21
4	8/20/79	11	12	0.30	9.11	0.109	302	581	14.17
4	8/20/79	11	44	0.20	13.09	0.113	352	675	21.78
4	8/20/79	17	52	0.20	11.56	0.064	306	475	16.74
4	8/21/79	18	1	0.14	13.13	0.031	279	403	19.26
4	8/21/79	19	31	0.23	1.84	0.061	137	1637	12.29
4	8/21/79	20	17	0.10	1.36	0.072	84	7236	7.96
4	8/21/79	21	39	0.25	1.50	0.037	85	3555	4.12
4	8/21/79	22	56	0.17	2.13	0.063	109	1973	7.77
4	8/22/79	1	34	0.30	2.38	0.096	119	1064	6.69
4	8/22/79	5	34	0.21	7.15	0.090	225	535	12.28
4	8/22/79	10	55	0.15	10.33	0.064	268	475	15.98
4	8/22/79	17	37	0.12	11.90	0.048	298	506	13.63
4	8/23/79	18	7	0.08	11.70	0.021	282	412	14.81
4	8/24/79	17	50	0.12	11.70	0.026	316	428	14.69
4	8/25/79	18	27	0.07	11.51	0.020	327	425	15.75
4	8/26/79	17	51	0.08	11.13	0.023	324	422	17.36
4	8/27/79	18	27	0.08	10.76	0.023	329	408	19.10
4	8/28/79	17	36	0.04	10.64	0.029	320	420	16.84
4	8/29/79	18	21	0.14	9.34	0.030	256	487	20.51
4	8/30/79	17	27	0.08	6.08	0.037	225	401	21.71
4	8/31/79	19	22	0.07	8.77	0.022	229	413	18.22
4	9/ 1/79	17	48	0.04	8.35	0.027	234	398	16.05
4	9/ 2/79	17	57	0.06	7.91	0.035	250	413	16.42
4	9/ 3/79	17	35	0.14	8.02	0.020	214	433	19.09
4	9/ 4/79	18	52	0.08	7.68	0.028	242	421	18.07
4	9/ 5/79	18	2	0.05	7.34	0.031	279	418	20.18
4	9/ 6/79	18	3	0.22	7.75	0.019	326	393	10.64
4	9/ 7/79	18	15	0.11	7.92	0.012	330	416	15.49
4	9/ 8/79	18	11	0.16	8.25	0.014	326	416	19.04
4	9/ 9/79	18	21	0.11	8.10	0.006	302	433	17.74
4	9/10/79	18	58	0.09	7.87	0.006	280	397	17.25
4	9/11/79	17	39	0.09	7.49	0.009	295	367	16.97
4	9/12/79	18	20	0.12	7.29	0.006	270	387	18.72
4	9/13/79	17	17	0.08	7.06	0.007	301	386	16.28
4	9/14/79	17	18	0.18	7.29	0.006	322	371	17.05
4	9/15/79	17	30	0.14	7.55	0.009	318	379	16.63
4	9/16/79	17	10	0.09	7.50	0.010	331	385	22.15
4	9/17/79	17	29	0.06	7.32	0.010	299	376	17.88
4	9/18/79	17	29	0.11	7.16	0.012	344	392	17.72
4	9/19/79	17	31	0.16	6.93	0.057	309	374	18.37
4	9/20/79	17	12	0.15	6.85	0.008	309	381	18.37
4	9/21/79	17	34	0.12	6.85	0.006	320	383	18.16
4	9/22/79	17	29	0.13	6.91	0.007	317	357	19.37
4	9/23/79	17	36	0.15	6.91	0.007	325	359	18.73
4	9/24/79	17	58	0.14	6.78	0.014	323	370	18.71
4	9/25/79	18	3	0.15	6.31	0.015	334	393	20.08
4	9/26/79	20	0	0.30	6.70	0.016	357	457	18.44
4	9/27/79	18	0	0.11	6.91	0.015	345	452	19.75
4	9/28/79	17	47	0.22	6.52	0.014	327	452	18.84
4	9/29/79	17	10	0.15	6.39	0.021	351	419	24.30
4	9/30/79	17	18	0.16	6.21	0.029	445	450	18.44
4	10/ 1/79	17	20	0.13	5.82	0.037	457	461	18.04
4	10/ 2/79	17	6	0.07	5.56	0.015	226	352	17.95
4	10/ 3/79	17	30	0.08	5.93	0.039	237	352	19.97
4	10/ 4/79	17	35	0.08	5.99	0.024	216	357	17.87
4	10/ 5/79	17	43	0.07	6.27	0.008	227	378	17.82
4	10/ 6/79	18	0	0.06	6.27	0.010	223	375	18.67
4	10/ 7/79	17	54	0.08	6.54	0.011	241	362	19.66
4	10/ 8/79	18	17	0.07	6.39	0.013	240	375	18.23
4	10/ 9/79	17	41	0.08	6.33	0.013	245	341	18.03
4	10/10/79	18	3	0.07	6.36	0.009	255	361	17.64
4	10/11/79	17	50	0.06	6.68	0.011	292	296	20.54
4	10/12/79	18	7	0.06	6.68	0.016	289	394	18.19
4	10/13/79	17	58	0.06	6.60	0.012	291	388	19.18
4	10/14/79	17	43	0.05	6.83	0.010	261	378	16.67
4	10/15/79	17	16	0.05	6.57	0.014	288	392	18.61
4	10/16/79	18	21	0.09	6.32	0.014	284	385	24.61
4	10/17/79	16	35	0.07	6.14	0.013	278	390	21.06
4	10/18/79	17	8	0.05	5.70	0.009	289	400	19.74
4	10/19/79	17	30	1.78	5.84	0.169	413	598	33.03
4	10/20/79	17	22	0.16	7.87	0.024	288	433	24.61
4	10/21/79	17	31	0.09	6.40	0.046	348	436	18.77
4	10/22/79	7	12	0.14	5.74	0.175	263	579	15.69
4	10/22/79	11	23	1.68	3.67	0.359	251	4165	25.50
4	10/22/79	12	57	0.93	4.25	0.333	175	3867	13.41
4	10/22/79	20	0	0.26	8.06	0.185	185	2134	13.35
4	10/22/79	20	25	0.34	8.91	0.413	246	1515	17.15
4	10/23/79	9	29	0.36	11.54	0.182	315	812	17.71
4	10/23/79	18	2	0.12	13.75	0.030	221	575	19.89
4	10/24/79	9	34	0.09	13.61	0.020	231	578	18.43
4	10/24/79	17	40	0.09	13.66	0.023	224	483	17.36
4	10/25/79	18	16	0.08	13.49	0.005	226	467	19.52
4	10/26/79	18	22	0.08	13.25	0.005	212	463	21.05
4	10/27/79	17	58	0.08	13.25	0.010	178	398	20.96
4	10/28/79	17	43	0.01	12.78	0.012	232	419	17.71
4	10/29/79	18	15	0.10	12.43	0.008	239	427	16.77
4	10/30/79	17	21	0.09	11.67	0.006	286	442	17.19
4	10/31/79	17	45	0.14	10.73	0.038	321	450	16.33
4	11/ 1/79	17	53	0.09	12.38	0.023	308	424	19.63
4	11/ 2/79	18	5	0.10	12.38	0.027	175	468	19.41
4	11/ 3/79	17	32	0.10	12.54	0.018	319	493	17.65
4	11/ 4/79	17	50	0.12	11.55	0.016	311	468	16.84
4	11/ 4/79	18	14	0.12	12.22	0.016	313	470	17.98

TABLE F2- 4. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	11/ 5/79	18	14	0.12	12.22	0.016	313	470	17.98
4	11/ 6/79	17	32	0.17	11.72	0.039	320	442	18.50
4	11/ 7/79	18	31	0.07	12.31	0.022	332	385	16.84
4	11/ 8/79	17	22	0.09	12.64	0.019	324	387	19.41
4	11/ 9/79	17	0	0.11	12.78	0.008	333	398	18.61
4	11/10/79	17	28	0.09	12.31	0.016	308	374	16.88
4	11/11/79	17	34	0.09	12.78	0.012	311	463	18.54
4	11/12/79	18	0	0.09	11.60	0.012	302	443	16.58
4	11/13/79	18	43	0.08	11.84	0.015	308	420	17.19
4	11/14/79	18	15	0.09	11.53	0.019	324	405	17.09
4	11/15/79	18	50	0.09	11.72	0.036	381	407	18.54
4	11/16/79	17	40	0.08	10.30	0.012	271	364	17.38
4	11/17/79	17	45	0.08	11.10	0.010	281	370	17.42
4	11/18/79	17	40	0.03	12.70	0.012	281	392	16.82
4	11/19/79	17	42	0.0	11.30	0.014	280	392	17.16
4	11/20/79	17	23	0.07	10.14	0.013	269	372	16.95
4	11/21/79	18	30	0.05	9.01	0.008	233	357	16.37
4	11/22/79	17	28	0.06	9.96	0.034	253	343	19.08
4	11/23/79	17	26	0.02	11.23	0.010	261	344	17.00
4	11/24/79	17	25	0.01	11.21	0.013	293	382	17.77
4	11/25/79	17	52	0.02	11.12	0.014	289	364	16.75
4	11/26/79	17	49	0.0	11.32	0.014	290	428	17.34
4	11/27/79	17	53	0.05	10.77	0.009	246	339	16.92
4	11/28/79	17	47	0.0	10.96	0.014	284	341	18.05
4	11/29/79	17	32	0.0	11.81	0.009	257	335	18.05
4	11/30/79	17	28	0.04	11.15	0.015	256	333	18.16
4	12/ 1/79	17	33	0.03	11.37	0.012	267	314	17.96
4	12/ 2/79	17	26	0.0	9.18	0.006	276	356	19.06
4	12/ 3/79	17	33	0.0	11.23	0.008	259	306	17.40
4	12/ 4/79	17	53		9.91	0.015	258	300	16.27
4	12/ 5/79	17	22		10.51	0.017	274	315	18.13
4	12/ 6/79	17	23	0.17	10.43	0.023	259	303	16.96
4	12/ 7/79	17	42	0.02	10.67	0.011	274	318	17.51
4	12/ 8/79	17	41	0.03	10.72	0.010	296	322	18.86
4	12/ 9/79	17	32	0.04	10.45	0.012	280	330	18.42
4	12/10/79	17	17	0.01	10.48	0.012	269	371	17.72
4	12/11/79	17	52	0.01	10.88	0.008	274	381	17.72
4	12/12/79	17	43	0.0	11.97	0.014	308	390	20.35
4	12/13/79	17	37	0.03	12.69	0.016	309	418	18.64
4	12/14/79	17	10	0.0	12.24	0.016	276	404	19.03
4	12/15/79	17	49	0.0	10.67	0.011	318	378	19.12
4	12/16/79	18	7	0.0	11.16	0.014	367	432	21.02
4	12/17/79	17	47	0.02	12.79	0.016	356	415	21.34
4	12/18/79	17	7	0.02	11.70	0.006	321	396	22.53
4	12/19/79	17	18	0.03	10.60	0.012	314	389	20.61
4	12/20/79	17	5	0.01	9.83	0.013	289	349	18.86
4	12/21/79	17	29	0.0	9.36	0.011	303	380	18.33
4	12/22/79	17	50	0.01	9.28	0.014	306	373	18.25
4	12/23/79	17	40	0.0	8.07	0.019	297	374	17.71
4	12/24/79	17	42	0.01	7.32	0.015	292	386	18.29
4	12/25/79	17	45	0.0	8.88	0.012	301	377	17.85
4	12/26/79	17	32	0.0	9.31	0.015	309	380	17.98
4	12/27/79	17	21	0.0	9.22	0.014	266	382	17.59
4	12/28/79	17	26	0.0	9.39	0.015	284	379	18.86
4	12/29/79	17	51	0.0	9.42	0.013	256	321	17.43
4	12/30/79	17	22	0.02	9.26	0.020	308	368	19.03
4	12/31/79	17	20	0.0	9.39	0.031	351	387	18.46

TABLE F2- 5. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1979 SITE 5

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
5	1/ 4/79	14	10	0.11	13.74	0.016	341	509	21.30
5	2/13/79	14	0	0.10	11.64	0.019	237	473	8.64
5	2/23/79	14	0	0.14	11.79	0.004	192	437	10.03
5	3/ 2/79	16	10	0.06	12.63	0.018	280	462	6.06
5	3/ 5/79	15	20	0.96	6.00	0.169	174	1099	6.83
5	3/ 5/79	17	39	1.52	5.81	0.357	202	679	14.18
5	3/ 6/79	9	57	1.48	6.46	0.482	214	450	16.90
5	3/ 6/79	13	53	1.10	7.00	0.236	213	650	6.06
5	3/ 6/79	17	39	1.49	6.37	0.470	221	290	16.40
5	3/ 7/79	9	22	1.60	6.82	0.475	212	398	22.79
5	3/ 7/79	18	3	1.54	6.99	0.493	221	388	18.88
5	3/ 8/79	10	3	1.67	7.49	0.450	251	465	18.22
5	3/ 8/79	18	9	1.87	7.81	0.461	261	446	18.64
5	3/ 9/79	11	18	1.89	7.79	0.409	256	466	25.92
5	3/ 9/79	17	52	1.95	7.83	0.443	254	435	21.64
5	3/10/79	17	59	1.61	7.89	0.341	282	470	18.99
5	3/12/79	12	57	1.00	6.74	0.280	237	421	10.49
5	3/12/79	13	33	1.20	6.32	0.248	216	561	13.31
5	3/12/79	18	3	1.65	5.39	0.445	190	643	28.28
5	3/13/79	9	42	1.17	4.34	0.380	164	458	11.83
5	3/13/79	17	50	1.87	2.81	0.641	106	736	14.37
5	3/14/79	9	11	1.65	4.55	0.436	141	418	23.73
5	3/14/79	13	48	1.11	4.06	0.416	150	477	10.02
5	3/14/79	17	56	1.09	3.78	0.475	133	409	9.38
5	3/15/79	10	2	1.36	5.22	0.664	191	357	14.81
5	3/15/79	17	50	1.13	4.80	0.489	219	505	12.07
5	3/16/79	9	30	1.04	7.36	0.423	248	612	18.99
5	3/16/79	17	49	0.43	2.64	0.774	51	69	11.35
5	3/16/79	18	5	1.00	3.26	0.302	101	1075	10.36
5	3/17/79	8	58	1.01	2.92	0.475	102	407	11.45
5	3/17/79	14	48	0.84	2.88	0.432	122	629	6.79
5	3/17/79	20	21	1.15	2.12	0.532	72	1053	21.27
5	3/18/79	3	12	1.47	1.95	0.723	66	823	17.10
5	3/18/79	8	41	1.29	1.41	0.573	83	1092	6.15
5	3/18/79	13	58	1.42	2.74	0.586	92	1262	6.90
5	3/18/79	17	26	1.66	2.03	0.648	83	1661	18.09
5	3/18/79	20	3	1.34	2.16	0.585	89	1211	8.00
5	3/19/79	3	27	1.40	3.99	0.779	137	1184	12.40
5	3/19/79	8	45	1.60	4.46	0.564	169	1048	11.74
5	3/19/79	13	35	1.42	5.73	0.507	192	931	11.74
5	3/19/79	20	1	1.36	5.65	0.327	259	946	16.77
5	3/20/79	2	41	0.62	9.05	0.106	298	789	23.73
5	3/20/79	8	47	0.27	9.30	0.169	295	662	17.13
5	3/20/79	17	28	0.31	7.65	0.139	289	584	17.95
5	3/21/79	2	34	0.17	10.63	0.086	289	574	19.76
5	3/21/79	11	1	0.10	10.80	0.157	306	508	20.76
5	3/21/79	18	10	0.25	10.80	0.090	301	500	16.83
5	3/22/79	8	45	0.12	11.18	0.067	311	455	16.80
5	3/22/79	13	46	0.20	11.20	0.059	314	449	17.61
5	3/22/79	18	30	0.25	10.86	0.080	324	477	17.27
5	3/23/79	8	32	2.77	17.20	0.761	330	1311	25.24
5	3/23/79	12	32	1.66	8.63	0.480	312	1415	29.35
5	3/23/79	15	41	0.87	9.46	0.302	303	1433	17.47
5	3/23/79	18	0	1.04	9.34	0.410	310	1106	18.19
5	3/23/79	22	48	0.30	11.06	0.255	336	768	21.73
5	3/25/79	13	7	0.09	12.19	0.084	323	513	25.67
5	3/25/79	17	37	0.14	21.32	0.065	345	498	18.79
5	3/26/79	8	57	0.15	13.26	0.017	320	487	23.50
5	3/26/79	18	12	0.13	12.42	0.085	338	605	23.98
5	3/27/79	9	4	0.11	12.39	0.093	327	515	14.82
5	3/27/79	17	56	0.08	11.60	0.047	325	654	19.51
5	3/28/79	8	55	0.24	11.77	0.108	352	541	20.12
5	3/28/79	15	0	3.89	5.96	0.707	402	1692	19.70
5	3/28/79	17	47	5.90	2.01	1.060	309	2881	19.30
5	3/28/79	23	37	1.23	6.37	0.408	227	1213	17.74
5	3/29/79	3	49	0.89	7.75	0.445	246	1109	13.40
5	3/29/79	4	47	0.91	8.95	0.189	296	866	21.20
5	3/29/79	8	57	1.23	7.84	1.803	489	5252	24.61
5	3/29/79	13	32	0.84	5.34	0.285	202	2399	10.96
5	3/29/79	17	20	0.75	5.86	0.343	185	1895	10.30
5	3/29/79	22	40	0.97	6.33	0.605	183	2332	13.25
5	3/30/79	2	17	0.52	10.26	0.273	256	778	15.23
5	3/30/79	6	41	0.36	11.06	0.220	303	668	21.60
5	3/30/79	9	27	0.67	9.02	0.361	256	886	13.03
5	3/31/79	3	38	0.25	12.84	0.109	305	550	20.94
5	3/31/79	11	16	0.05	13.06	0.074	312	504	19.44
5	3/31/79	18	38	0.0	12.73	0.029	322	494	18.74
5	4/ 1/79	8	59	0.19	13.61	0.064	313	499	19.34
5	4/ 1/79	17	29	0.04	13.31	0.049	313	447	20.58
5	4/ 2/79	15	14	0.0	12.63	0.029	313	446	18.22
5	4/ 2/79	22	26	0.51	12.41	0.160	330	523	26.26
5	4/ 3/79	9	46	0.11	13.06	0.056	316	416	18.64
5	4/ 3/79	17	40	0.41	12.25	0.141	325	510	18.12
5	4/ 4/79	10	21	0.21	13.38	0.028	331	410	20.22
5	4/ 4/79	17	44	0.13	13.05	0.086	287	485	18.95
5	4/ 5/79	13	45	0.0	13.47	0.052	325	457	19.48
5	4/13/79	14	25	0.19	12.94	0.072	289	425	16.64
5	4/18/79	18	21	0.0	13.32	0.062	289	407	18.15
5	4/19/79	14	17	0.0	12.01	0.039	272	574	16.14
5	4/19/79	15	47	0.24	11.44	0.098	262	643	19.75
5	4/19/79	18	1	1.22	9.64	0.055	361	1067	25.59
5	4/19/79	21	21	0.37	12.11	0.110	284	603	23.32
5	4/20/79	12	0	0.91	8.91	0.335	222	2509	14.90
5	4/20/79	13	34	0.73	8.00	0.202	202	3469	15.15
5	4/20/79	17	41	0.40	5.78	0.287	132	4114	9.33
5	4/20/79	21	22	0.30	11.51	0.373	248	1351	13.00
5	4/22/79	8	26	0.12	14.83	0.133	275	746	24.77
5	4/24/79	12	50	0.0	15.68	0.037	315	469	18.91
5	5/ 1/79	15	30	0.12	16.12	0.227	271	455	33.08
5	5/ 2/79	12	27	0.02	13.88	0.026	311	418	16.69
5	5/ 2/79	15	9	0.09	12.92	0.098	311	864	14.94
5	5/ 2/79	17	53	0.20	11.95	0.165	331	1008	14.94
5	5/ 2/79	21	47	0.44	13.31	0.278	361	773	17.47
5	5/ 3/79	5	13	0.15	15.13	0.136	345	469	19.28

TABLE F2- 5. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
5	5/ 3/79	19	21	0.03	16.23	0.032	331	445	16.87
5	5/ 9/79	13	35	0.02	17.01	0.021	363	382	17.35
5	5/15/79	17	30	0.0	14.53	0.012	362	388	17.14
5	5/22/79	17	45	0.0	14.67	0.009	383	400	18.82
5	5/29/79	14	37	0.01	13.60	0.018	383	400	16.48
5	6/ 4/79	20	42	0.50	12.95	0.048	246	3369	11.93
5	6/ 4/79	21	3	0.27	12.14	0.033	270	5225	14.46
5	6/ 4/79	21	8	0.27	13.36	0.067	301	2202	14.29
5	6/ 4/79	21	38	0.21	13.53	0.054	318	1540	17.15
5	6/ 5/79	0	44	0.13	13.09	0.085	323	967	16.18
5	6/ 5/79	5	37	0.0	14.17	0.033	366	554	17.37
5	6/ 5/79	13	1	0.0	14.48	0.026	371	396	15.23
5	6/ 9/79	12	1	0.12	11.33	0.046	225	1104	12.68
5	6/ 9/79	15	31	0.06	13.07	0.053	245	661	14.54
5	6/ 9/79	18	15	0.07	13.39	0.054	273	542	14.80
5	6/12/79	13	54	0.05	14.94	0.019	494	570	19.00
5	6/12/79	18	37	0.83	7.33	0.150	158	43860	4.87
5	6/12/79	18	53	0.55	6.35	0.155	128	41520	3.49
5	6/12/79	19	40	0.33	4.67	0.255	129	21780	4.78
5	6/12/79	20	36	0.47	5.15	0.143	125	19860	3.14
5	6/12/79	20	42	0.42	5.22	0.143	123	17790	3.99
5	6/12/79	21	36	0.35	4.57	0.113	122	16920	4.18
5	6/12/79	22	57	0.33	4.49	0.120	118	8288	3.52
5	6/13/79	0	8	0.31	5.31	0.244	135	5907	4.70
5	6/13/79	1	7	0.32	7.73	0.235	235	5227	6.31
5	6/13/79	5	14	0.13	15.58	0.095	336	1631	11.93
5	6/13/79	8	32	0.06	17.98	0.078	374	1201	13.61
5	6/13/79	12	5	0.02	17.84	0.068	367	961	14.03
5	6/13/79	13	35	0.04	18.14	0.064	394	917	18.52
5	6/13/79	17	45	0.13	18.90	0.035	370	840	22.79
5	6/18/79	17	56	0.04	17.48	0.027	334	687	18.74
5	6/19/79	12	14	0.07	15.67	0.047	386	655	19.44
5	6/19/79	23	30	0.21	10.03	0.049	291	4328	9.57
5	6/20/79	2	21	0.23	7.57	0.069	214	7554	7.51
5	6/20/79	9	27	0.09	13.95	0.077	284	1016	15.34
5	6/26/79	14	50	0.0	16.15	0.032	383	510	18.65
5	6/27/79	4	22	0.19	3.39	0.104	81	9917	2.91
5	6/27/79	5	19	0.20	3.67	0.114	81	6740	3.16
5	6/27/79	7	59	0.29	10.37	0.150	337	2448	8.99
5	6/27/79	10	0	0.22	14.11	0.101	400	1748	11.57
5	6/27/79	12	3	0.18	18.12	0.080	428	1350	13.49
5	6/27/79	18	12	0.09	20.50	0.036	441	835	15.25
5	6/29/79	9	58	0.05	19.70	0.025	405	770	17.06
5	7/ 3/79	8	47	0.09	8.33	0.079	307	15960	6.54
5	7/ 3/79	10	27	0.07	2.08	0.087	85	14780	1.83
5	7/ 3/79	11	29	0.03	2.42	0.130	78	10900	1.73
5	7/ 3/79	12	46	0.10	1.64	0.110	69	7695	2.49
5	7/ 3/79	15	2	0.02	2.86	0.110	100	4937	3.46
5	7/ 3/79	18	15	0.12	12.01	0.179	328	3106	10.80
5	7/ 3/79	21	44	0.12	10.40	0.109	346	10230	9.08
5	7/ 3/79	22	37	0.09	7.60	0.117	372	7657	6.99
5	7/ 3/79	23	32	0.10	9.03	0.104	578	4714	8.13
5	7/ 4/79	0	31	0.12	10.37	0.103	636	5443	11.29
5	7/ 4/79	5	13	0.07	18.74	0.075	430	1259	16.23
5	7/ 4/79	11	43	0.02	19.97	0.039	398	818	15.77
5	7/ 4/79	19	16	0.02	19.78	0.053	412	750	16.97
5	7/13/79	11	4	0.0	17.30	0.044	432	861	16.52
5	7/13/79	21	16	0.15	4.93	0.097	244	10160	14.23
5	7/13/79	21	20	0.30	4.03	0.077	468	7063	7.50
5	7/13/79	22	36	0.11	5.64	0.078	242	9627	6.56
5	7/14/79	2	15	0.0	0.60	0.082	107	3030	1.16
5	7/14/79	3	26	0.07	1.50	0.196	109	6976	1.52
5	7/14/79	4	34	0.14	1.32	0.185	94	7997	2.20
5	7/14/79	5	50	0.06	7.64	0.303	254	2599	8.13
5	7/14/79	9	24	0.05	9.45	0.286	303	2845	18.15
5	7/14/79	14	19	0.13	16.73	0.078	305	1081	14.57
5	8/ 2/79	15	56	0.01	13.78	0.012	350	410	15.10
5	8/ 9/79	23	0	0.19	4.99	0.125	173	1452	13.34
5	8/19/79	7	59	0.83	4.94	0.200	188	630	13.65
5	8/19/79	9	26	0.21	2.97	0.153	188	1849	17.84
5	8/19/79	11	14	0.42	2.66	0.041	105	1150	
5	8/19/79	14	48	0.39	8.17	0.106	271	712	16.46
5	8/19/79	18	9	0.31	2.04	0.142	335	754	18.65
5	8/19/79	23	39	0.35	3.86	0.062	144	2457	
5	8/20/79	1	45	0.62	1.14	0.244	153	1293	9.80
5	8/20/79	5	57	0.28	2.76	0.134	288	678	16.44
5	8/20/79	11	44	0.18	11.99	0.100	351	558	18.48
5	8/20/79	18	9	0.14	12.97	0.051	331	608	20.97
5	8/21/79	19	58	0.16	0.03	0.170	102	3184	7.55
5	8/21/79	20	42	0.15	0.02	0.087	86	2748	7.90
5	8/21/79	21	20	0.30	0.0	0.133	64	2210	4.94
5	8/21/79	23	17	0.29	0.03	0.174	92	3072	9.58
5	8/22/79	1	58	0.26	3.03	0.144	209	650	11.66
5	8/22/79	5	54	0.18	3.80	0.116	292	677	16.34
5	8/22/79	11	24	0.13	13.76	0.047	259	551	17.08
5	8/22/79	17	56	0.12	13.31	0.048	296	471	24.28
5	8/28/79	18	40	0.10	13.13	0.036	336	444	25.29
5	9/12/79	15	59	0.05	9.61	0.029	347	401	25.08
5	9/19/79	15	40	0.18	9.74	0.015	358	410	22.98
5	9/26/79	16	35		9.26	0.021	353	476	27.12
5	10/ 2/79	15	5	0.16	9.42	0.044	390	521	28.68
5	10/ 9/79	14	25	0.11	9.09	0.019	315	566	4.78
5	10/16/79	14	15	0.15	8.98	0.016	310	512	4.35
5	10/22/79	7	31	1.95	5.65	0.491	432	4280	7.98
5	10/22/79	11	45	0.75	4.66	0.465	203	3734	14.08
5	10/22/79	13	25	0.67	4.44	0.428	521	3083	14.79
5	10/22/79	20	25	0.17	8.81	0.422	285	1479	18.54
5	10/23/79	9	12	0.11	14.26	0.188	358	1057	19.55
5	10/23/79	15	45	0.09	15.02	0.119	376	890	19.85
5	10/23/79	18	14	0.11	15.87	0.020	265	906	19.15
5	10/24/79	9	20	0.11	16.22	0.019	251	859	21.16
5	10/30/79	13	0	0.09	15.05	0.017	285	645	20.08
5	11/ 6/79	16	30	0.09	14.70	0.035	311	552	4.33
5	11/16/79	16	55	0.26	14.13	0.045	395	480	4.23

TABLE F2- 5. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				----------	----------	PPM	----------	----------	----------
5	11/28/79	17	30	0.0	13.15	0.020	303	417	18.95
5	12/ 4/79	17	30	0.0	12.38	0.023	1830	1858	21.67
5	12/10/79	16	35	0.0	12.74	0.026	1977	2096	19.03
5	12/19/79	16	30	0.0	12.08	0.022	1846	1901	18.30
5	12/26/79	14	35	0.0	12.08	0.023	1755	1816	20.15

TABLE F2- 6. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1979 SITE 6

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
6	1/12/79	13	35	0.05	10.44	0.006	252	331	14.98
6	1/18/79	13	45	0.07	11.23	0.006	153	330	4.69
6	2/13/79	14	15	0.04		0.003	137	351	3.76
6	2/23/79	14	30	0.04	10.44	0.002	162	327	3.20
6	3/ 2/79	16	15	0.05	9.79	0.040	189	347	4.32
6	3/ 5/79	15	30	0.38		0.289	329	372	5.96
6	3/ 5/79	17	32	0.25	6.49	0.261	282	331	13.25
6	3/ 6/79	9	51	0.28	6.67	0.191	282	330	14.49
6	3/ 6/79	14	0	0.35	8.85	0.132	241	315	5.41
6	3/ 6/79	17	30	0.36	6.66	0.248	295	331	16.27
6	3/ 7/79	9	30	0.57	6.59	0.232	342	406	29.33
6	3/ 7/79	17	55	0.28	6.57	0.216	304	333	15.13
6	3/ 8/79	9	53	0.28	6.64	0.286	290	295	17.44
6	3/ 8/79	18	2	0.17	6.76	0.186	295	312	15.94
6	3/ 9/79	11	11	0.24	7.08	0.182	287	301	14.65
6	3/ 9/79	17	45	0.19	7.15	0.170	287	305	13.55
6	3/10/79	17	52	0.24	7.25	0.211	302	309	16.50
6	3/11/79	17	50	0.31	7.32	0.108	262	291	13.55
6	3/12/79	12	53	0.17	7.06	0.167	308	334	13.51
6	3/12/79	13	27	0.14	6.57	0.141	267	310	15.13
6	3/12/79	17	58	1.02	6.07	0.377	253	334	17.24
6	3/13/79	9	36	0.67	5.83	0.283	236	289	13.55
6	3/13/79	17	43	0.71	2.58	0.378	122	481	11.02
6	3/14/79	9	4	0.56	4.37	0.341	172	329	10.73
6	3/14/79	13	42	0.45	4.30	0.281	181	527	8.92
6	3/14/79	17	49	0.38	4.43	0.378	179	356	11.16
6	3/15/79	10	9	0.37	6.01	0.111	285	303	14.30
6	3/15/79	17	43	0.41	6.02	0.200	293	353	19.69
6	3/16/79	9	22	0.25	6.28	0.117	309	333	11.31
6	3/16/79	17	44	0.69	1.68	0.390	141	735	4.60
6	3/16/79	17	57	0.94	2.49	0.423	153	895	9.39
6	3/17/79	8	46	0.41	3.35	0.429	197	405	9.91
6	3/17/79	17	41	0.48	2.13	0.194	148	1526	6.72
6	3/17/79	20	29	0.54	1.56	0.252	122	1104	5.86
6	3/18/79	2	45	0.58	1.85	0.370	131	918	7.87
6	3/18/79	8	49	0.46	2.11	0.325	124	937	6.84
6	3/18/79	13	49	0.47	1.34	0.256	101	1200	6.35
6	3/18/79	17	33	0.53	2.21	0.229	113	1011	3.72
6	3/18/79	21	57	0.58	2.69	0.325	135	1028	6.51
6	3/19/79	3	22	0.95	3.87	0.401	178	634	6.51
6	3/19/79	8	38	1.11	4.28	0.445	189	613	9.33
6	3/19/79	13	29	1.00	4.85	0.376	160	553	6.91
6	3/19/79	19	55	1.07	6.60	0.045	253	413	14.01
6	3/20/79	2	35	0.41	8.91	0.209	232	371	12.18
6	3/20/79	8	40	0.33	9.14	0.200	244	371	10.46
6	3/20/79	17	21	0.25	9.59	0.071	246	340	10.22
6	3/21/79	2	28	0.19	8.26	0.108	251	336	11.20
6	3/21/79	10	56	0.48	12.56	0.087	264	326	11.77
6	3/21/79	18	5	0.23	11.80	0.108	262	343	12.59
6	3/22/79	8	40	0.18	9.22	0.063	241	374	11.77
6	3/22/79	13	40	0.16	8.77	0.049	250	343	11.16
6	3/22/79	18	22	0.37	7.08	0.107	236	331	10.95
6	3/23/79	8	38	1.28	5.87	0.331	283	743	12.18
6	3/23/79	12	21	1.33	7.67	0.442	306	616	13.88
6	3/23/79	15	35	0.87	8.76	0.300	300	442	15.72
6	3/23/79	17	53	0.65	9.17	0.255	305	410	19.40
6	3/23/79	22	40	0.16	9.33	0.062	270	364	10.95
6	3/25/79	12	59	0.09	9.58	0.075	189	358	13.53
6	3/25/79	17	31	0.08	10.01	0.049	187	296	13.07
6	3/26/79	8	52	0.11	10.17	0.033	191	270	13.77
6	3/26/79	18	6	0.12	10.13	0.065	190	290	12.48
6	3/27/79	9	10	0.08	10.33	0.074	179	344	29.45
6	3/27/79	17	51	0.15	9.91	0.072	157	295	12.20
6	3/28/79	9	0	0.17	10.21	0.084	219	326	16.33
6	3/28/79	15	0	0.35	8.43	0.209	191	426	16.01
6	3/28/79	17	39	0.27	7.56	0.165	244	636	11.02
6	3/28/79	23	30	0.29	9.44	0.046	288	386	11.89
6	3/29/79	4	40	0.27	10.02	0.033	301	336	18.12
6	3/29/79	9	2	0.53	6.63	0.230	222	1546	9.61
6	3/29/79	13	24	0.38	6.25	0.176	205	1669	9.97
6	3/29/79	17	13	1.00	5.49	0.367	210	620	8.92
6	3/29/79	22	31	0.91	4.38	0.363	194	958	6.91
6	3/30/79	2	11	0.57	8.51	0.305	266	344	10.38
6	3/30/79	3	43	0.80	2.37	0.378	246	521	8.92
6	3/30/79	6	35	0.48	9.65	0.146	269	338	10.54
6	3/30/79	9	22	0.62	8.10	0.312	228	408	11.69
6	3/31/79	3	33	0.32	11.24	0.089	239	355	15.06
6	3/31/79	11	11	0.14	11.64	0.057	238	336	10.54
6	3/31/79	18	33	0.04	10.88	0.045	218	322	11.03
6	4/ 1/79	8	54	0.03	11.69	0.026	217	317	10.95
6	4/ 1/79	17	23	0.09	11.80	0.066	257	322	12.59
6	4/ 2/79	15	7	0.07	8.32	0.129	230	346	12.59
6	4/ 2/79	22	20	0.05	9.78	0.077	248	312	13.55
6	4/ 3/79	9	39	0.11	11.30	0.034	245	325	11.77
6	4/ 3/79	17	35	0.52	10.42	0.121	276	330	11.85
6	4/ 4/79	10	17	0.20	11.20	0.194	234	314	16.23
6	4/ 4/79	17	38	0.24	10.73	0.057	232	308	11.61
6	4/ 5/79	13	50	0.07	11.09	0.077	215	304	13.08
6	4/13/79	14	26	0.0	12.30	0.044	214	311	13.74
6	4/18/79	18	18	0.0	12.08	0.044	228	330	11.03
6	4/19/79	14	12	0.41	3.76	0.921	62	9552	5.31
6	4/19/79	15	41	1.11	5.67	0.469	188	2532	12.59
6	4/19/79	17	55	0.53	9.63	0.199	239	665	14.98
6	4/19/79	21	15	0.24	10.45	0.453	218	406	14.82
6	4/20/79	11	54	0.50	5.74	0.390	118	2196	8.44
6	4/20/79	13	27	0.41	3.80	0.287	49	3453	4.83
6	4/20/79	17	34	0.17	10.88	0.115	205	491	11.12
6	4/20/79	21	17	0.10	12.16	0.127	149	511	15.06
6	4/21/79	8	23	0.0	13.06	0.073	176	362	19.66
6	4/24/79	12	55	0.19	13.09	0.124	250	274	28.32
6	5/ 1/79	15	33	0.05	14.37	0.025	242	322	13.00
6	5/ 2/79	12	21	0.06	11.89	0.040	266	330	11.92
6	5/ 2/79	15	4	0.58	4.54	0.295	196	2824	8.93
6	5/ 2/79	17	44	0.44	8.20	0.423	276	753	11.77

TABLE F2- 6. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
6	5/ 2/79	21	40	0.29	10.74	0.231	306	421	12.52
6	5/ 3/79	5	5	0.08	13.49	0.050	303	392	12.77
6	5/ 3/79	19	16	0.01	14.24	0.021	274	355	12.57
6	5/ 9/79	13	30	0.0	13.83	0.015	309	335	12.68
6	5/15/79	17	28	0.0	12.67	0.009	287	312	12.10
6	5/22/79	17	0	0.11	10.91	0.011	281	416	13.00
6	5/29/79	14	33	0.02	11.60	0.020	327	345	13.91
6	6/ 4/79	19	59	0.32	5.91	0.031	126	24600	3.65
6	6/ 4/79	20	48	0.29	5.90	0.049	140	12570	5.85
6	6/ 4/79	21	15	0.19	7.38	0.069	180	5820	7.09
6	6/ 4/79	21	43	0.38	8.38	0.065	224	4761	11.10
6	6/ 5/79	0	37	0.03	12.78	0.081	364	900	12.76
6	6/ 5/79	5	31	0.04	12.25	0.051	345	442	11.35
6	6/ 5/79	13	7	0.03	13.50	0.036	336	386	11.43
6	6/ 9/79	11	56	0.21	7.36	0.069	430	3717	8.03
6	6/ 9/79	15	25	0.26	11.95	0.166	344	631	12.68
6	6/ 9/79	18	11	0.15	12.69	0.111	386	526	15.40
6	6/12/79	13	49	0.05	12.71	0.020	290	381	13.11
6	6/12/79	18	31	0.25	2.26	0.044	92	119300	1.29
6	6/12/79	18	58	0.23	2.65	0.105	97	45840	1.96
6	6/12/79	19	35	0.38	3.64	0.143	124	19470	7.99
6	6/12/79	20	45	0.37	7.48	0.201	233	5794	11.85
6	6/12/79	20	49	0.48	8.16	0.194	243	3455	10.99
6	6/12/79	21	43	0.33	10.09	0.158	293	3402	12.32
6	6/12/79	22	47	0.23	11.71	0.113	360	1792	12.88
6	6/13/79	0	1	0.18	13.09	0.145	370	1057	11.93
6	6/13/79	1	21	0.41	13.09	0.128	358	857	12.68
6	6/13/79	5	2	0.09	13.60	0.088	383	651	18.84
6	6/13/79	8	25	0.09	13.34	0.069	364	554	12.18
6	6/13/79	11	59	0.06	13.55	0.055	376	539	11.85
6	6/13/79	13	29	0.08	13.92	0.059	380	564	11.51
6	6/13/79	17	40	0.07	14.13	0.028	296	489	13.96
6	6/18/79	17	51	0.04	14.37	0.011	301	400	14.01
6	6/19/79	12	8	0.03	14.05	0.022	305	532	13.24
6	6/19/79	23	25	0.33	3.00	0.064	93	20430	2.30
6	6/20/79	0	27	0.25	3.15	0.107	137	9402	3.73
6	6/20/79	9	32	0.04	13.63	0.024	306	1119	19.06
6	6/26/79	14	58	0.02	14.10	0.021	363	369	13.61
6	6/27/79	2	14	0.24	4.67	0.171	168	7136	7.77
6	6/27/79	4	17	0.29	11.41	0.186	372	1752	24.83
6	6/27/79	5	23	0.25	13.33	0.148	452	1185	24.15
6	6/27/79	7	55	0.15	14.82	0.046	363	866	15.42
6	6/27/79	9	54	0.14	14.38	0.032	416	739	13.79
6	6/27/79	11	58	0.11	14.00	0.025	239	597	13.49
6	6/27/79	18	7	0.03	15.50	0.022	285	679	20.78
6	6/28/79	9	54	0.05	15.95	0.036	247	1133	14.14
6	7/ 3/79	8	53	0.10	2.09	0.036	29	34210	1.57
6	7/ 3/79	10	21	0.09	2.41	0.152	72	17260	3.06
6	7/ 3/79	11	22	0.14	6.31	0.150	184	7181	7.33
6	7/ 3/79	12	38	0.14	14.41	0.110	331	2692	13.84
6	7/ 3/79	14	58	0.09	16.24	0.068	354	1388	14.51
6	7/ 3/79	18	20	0.08	16.56	0.039	355	1459	16.14
6	7/ 3/79	21	37	0.14	6.73	0.014	422	12020	7.01
6	7/ 3/79	21	47	0.07	7.15	0.019	283	7662	6.21
6	7/ 3/79	22	30	0.22	5.93	0.036	525	7824	8.54
6	7/ 3/79	23	36	0.15	9.36	0.088	587	3944	10.17
6	7/ 4/79	5	7	0.0	15.87	0.010	252	846	14.82
6	7/ 4/79	11	37	0.0	15.36	0.023	254	635	15.82
6	7/ 4/79	19	10	0.02	15.24	0.041	333	1040	14.54
6	7/ 5/79	0	25	0.13	13.40	0.098	324	1311	13.57
6	7/13/79	10	58	0.0	5.54	0.010	580	2791	11.76
6	7/13/79	21	12	0.33	3.54	0.025	525	19710	5.85
6	7/13/79	22	31	0.09	6.16	0.052	489	4586	6.09
6	7/14/79	2	10	0.13	1.24	0.111	135	16580	4.90
6	7/14/79	3	14	0.18	5.19	0.239	225	6214	6.46
6	7/14/79	4	28	0.05	4.62	0.043	219	16300	3.95
6	7/14/79	5	45	0.03	3.04	0.187	192	9081	3.53
6	7/14/79	9	18	0.04	14.79	0.095	442	1386	15.48
6	7/14/79	14	15	0.08	15.49	0.033	308	907	12.39
6	8/ 2/79	15	54	0.19	13.39	0.022	308	561	11.99
6	8/19/79	7	53	0.41	3.70	0.099	184	1706	9.28
6	8/19/79	9	20	0.67	5.99	0.527	340	1007	20.96
6	8/19/79	11	20	0.69	8.62	0.272	354	704	20.57
6	8/19/79	14	41	0.34	9.31	0.080	340	648	16.84
6	8/19/79	18	3	0.24	9.65	0.037	307	632	17.21
6	8/19/79	22	53	0.24	1.48	0.038	95	8298	5.68
6	8/19/79	23	32	0.40	1.73	0.122	118	8501	7.31
6	8/20/79	1	39	0.42	7.55	0.197	279	1808	13.68
6	8/20/79	5	51		9.53	0.076	344	610	16.69
6	8/20/79	11	22	0.19	9.97	0.045	337	526	15.25
6	8/20/79	18	3	0.12	10.29	0.029	359	560	15.20
6	8/21/79	19	46	0.20	0.31	0.089	58	7004	3.58
6	8/21/79	20	0	0.25	1.18	0.177	58	5034	3.10
6	8/21/79	20	36	0.46	2.45	0.301	137	4943	7.66
6	8/21/79	21	27	0.59	5.02	0.408	224	1942	10.43
6	8/21/79	23	10	0.30	7.90	0.169	276	958	13.28
6	8/22/79	1	51	0.19	10.21	0.066	344	547	18.08
6	8/22/79	5	48	0.14	10.41	0.038	334	470	25.70
6	8/22/79	11	17	0.16	10.59	0.029	325	416	16.84
6	8/22/79	17	49	0.12	10.13	0.020	304	387	17.58
6	8/28/79	18	35	0.06	10.80	0.014	339	382	14.05
6	9/12/79	15	55	0.06	8.80	0.015	351	398	13.91
6	9/19/79	15	45	0.10	8.89	0.015	279	395	15.49
6	9/26/79	15	40	0.09	8.21	0.015	284	384	19.41
6	10/ 2/79	15	15	0.12	7.99	0.031	385	409	14.69
6	10/ 9/79	14	20	0.06	7.49	0.011	269	379	12.82
6	10/16/79	14	10	0.06	6.58	0.010	292	452	13.91
6	10/22/79	7	25	0.06	1.51	0.140	179	1269	10.78
6	10/22/79	11	37	0.08	4.60	0.649	225	1139	14.22
6	10/22/79	13	17	0.20	5.68	0.916	262	845	15.33
6	10/22/79	20	16	0.09	9.03	0.216	350	520	16.78
6	10/23/79	9	19	0.08	8.27	0.086	400	448	41.22
6	10/23/79	15	50	0.08	8.42	0.059	369	380	14.49
6	10/23/79	18	11	0.08	9.05	0.018	235	393	15.16

TABLE F2- 6. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				----------	----------	PPM	----------	----------	
6	10/24/79	9	25	0.08	8.72	0.012	207	362	15.66
6	10/30/79	13	10	0.09	8.25	0.013	213	469	14.67
6	11/ 6/79	16	35	0.08	7.57	0.014	251	405	15.66
6	11/16/79	16	50	0.07	7.64	0.017	318	369	23.90
6	11/28/79	17	25	0.0	7.13	0.010	245	374	13.61
6	12/ 4/79	17	25	0.0	6.96	0.009	231	391	13.57
6	12/10/79	16	30	0.0	6.01	0.011	255	355	13.61
6	12/19/79	16	35	0.01	7.07	0.009	233	352	12.58
6	12/26/79	14	40	0.01	7.15	0.009	257	348	21.00

TABLE F2- 7. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1979 SITE 7

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
7	3/16/79	19	43	0.60	2.11	0.865	144	152	6.06
7	3/16/79	22	0	0.63	2.39	0.814	124	139	4.24
7	3/17/79	1	0	0.67	2.27	0.828	121	135	3.76
7	3/17/79	4	0	0.63	2.27	0.791	114	121	3.76
7	3/17/79	7	0	0.68	1.95	0.919	129	132	3.97
7	3/17/79	10	0	0.83	2.00	0.973	124	141	4.26
7	3/17/79	13	0	0.73	2.42	0.838	147		4.36
7	3/17/79	16	15	0.34	0.94	0.254	20	74	4.69
7	3/17/79	17	15	0.62	1.52	0.363	24	56	4.60
7	3/17/79	18	15	0.67	1.59	0.258	23	65	2.44
7	3/17/79	19	15	0.57	0.90	0.325	29	31	4.85
7	3/17/79	20	15	0.59	1.43	0.349	16	33	8.62
7	3/17/79	21	15	0.53	0.99	0.329	5	38	9.53
7	3/17/79	22	15	0.66	1.02	0.465	36	78	8.25
7	3/17/79	23	15	0.60	1.29	0.438	26	78	4.52
7	3/18/79	0	15	0.50	1.59	0.383	63	86	4.59
7	3/18/79	1	15	0.64	1.59	0.485	51	83	4.11
7	3/18/79	2	15	0.79	1.60	0.545	54	103	6.54
7	3/18/79	3	15	0.70	1.54	0.490	100	103	4.17
7	3/18/79	4	15	0.36	1.51	0.354	101	151	2.36
7	3/18/79	5	15	0.08	1.43	0.176	106	261	10.95
7	3/18/79	6	15	0.18	1.86	0.200	90	256	10.03
7	3/18/79	7	15	0.10	1.64	0.225	86	219	2.81
7	3/18/79	8	15	0.16	2.01	0.205	115	232	2.23
7	3/18/79	15	10	0.54	1.18	0.534	123	245	3.04
7	3/18/79	16	43	1.24	1.21	1.069	129	418	11.07
7	3/18/79	18	15	0.96	3.45	0.848	173	348	8.35
7	3/18/79	19	15	1.22	3.06	1.019	157	330	5.96
7	3/18/79	20	15	1.25	1.94	1.178	139	239	13.00
7	3/18/79	21	15	1.22	1.98	1.253	150	223	7.83
7	3/18/79	22	15	1.13	3.52	1.226	169	232	10.86
7	3/18/79	23	15	1.28	3.58	1.244	178	227	13.64
7	3/19/79	0	15	1.35	3.34	1.253	171	220	15.06
7	3/19/79	1	15	1.17	3.74	1.185	157	211	20.05
7	3/19/79	2	15	1.30	3.11	1.084	180	215	15.09
7	3/19/79	3	15	1.20	3.13	1.263	190	211	9.33
7	3/19/79	4	15	1.10	2.73	1.276	173	216	9.24
7	3/19/79	5	15	1.19	2.85	1.210	187	219	14.34
7	3/19/79	15	28	1.47	5.38	1.722	235	238	16.76
7	3/19/79	15	40	1.13	5.20	1.281	123	187	13.60
7	3/19/79	18	40	1.36	6.18	1.610	171	190	22.15
7	3/19/79	21	40	1.07	6.77	1,500	201	208	18.55
7	3/20/79	0	40	1.37	7.23	1.457	207	209	20.12
7	3/20/79	3	40	0.76	7.71	1.054	231	235	19.51
7	3/20/79	6	40	0.96	7.50	1.178	238	286	23.67
7	3/20/79	9	40	0.89	7.42	1.250	227	290	23.04
7	3/20/79	13	10	1.24	8.27	1.498	226	287	28.79
7	3/23/79	3	50	0.92	7.49	0.505	232	328	10.67
7	3/23/79	4	50	1.13	7.59	0.406	190	287	10.93
7	3/23/79	5	50	0.41	7.15	0.422	195	286	12.40
7	3/23/79	6	50	0.46	9.68	0.826	217	288	19.07
7	3/23/79	7	50	0.77	7.46	0.601	212	301	14.58
7	3/28/79	15	45	0.32	4.07	0.315	117	300	4.67
7	3/28/79	18	22	0.25	3.74	0.274	92	190	4.92
7	3/29/79	0	16	0.57	4.78	0.713	101	142	11.19
7	3/29/79	5	25	0.80	5.49	0.908	136	178	12.49
7	3/29/79	10	18	0.28	4.92	0.301	104	847	5.77
7	3/29/79	11	30	0.55	4.65	0.524	132	509	10.87
7	3/29/79	12	42	0.65	5.00	0.610	138	489	20.01
7	3/29/79	13	36	0.83	5.24	0.951	157	694	26.35
7	3/29/79	14	40	0.81	4.75	0.658	164	606	10.45
7	3/29/79	14	55	1.00	5.73	1.224	162	548	14.02
7	3/29/79	15	40	0.62	5.27	0.857	158	418	22.66
7	3/29/79	16	40	0.94	6.76	0.636	194	274	18.29
7	3/29/79	16	54	0.86	5.73	1.011	185	268	24.61
7	3/29/79	17	40	0.48	7.45	0.439	263	316	11.74
7	3/29/79	18	5	0.97	5.87	0.925	194	345	13.09
7	3/29/79	18	40	0.68	7.44	0.564	268	311	17.10
7	3/29/79	19	40	0.48	6.86	0.573	224	292	11.48
7	3/29/79	20	40	0.62	7.06	0.531	237	280	12.73
7	3/29/79	21	40	0.72	7.29	0.636	230	271	20.37
7	3/29/79	22	40	0.73	7.19	0.656	232	270	16.63
7	3/30/79	0	10	0.79	7.42	0.658	234	283	15.52
7	3/30/79	2	10	0.63	7.53	0.746	241	282	24.58
7	3/30/79	5	40	0.53	8.13	0.573	280	281	17.44
7	3/30/79	8	40	0.37	8.96	0.549	315	336	25.95
7	4/20/79	19	15	0.29	8.17	1.197	231	407	29.11
7	4/24/79	11	41	0.0	7.80	1.134	467	482	32.62
7	6/12/79	19	27	0.52	3.81	0.680	137	5583	3.73
7	6/12/79	20	3	0.43	3.51	0.678	82	2990	9.45
7	6/12/79	21	21	0.41	5.05	0.678	139	1391	5.97
7	6/13/79	0	30	0.43	10.07	0.680	221	636	10.23
7	6/19/79	22	27	0.08	1.87	0.134	48	9063	3.62
7	6/19/79	22	57	0.09	1.14	0.144	28	8159	1.46
7	6/19/79	23	27	0.08	1.35	0.148	30	6382	1.96
7	6/19/79	23	57	0.10	1.60	0.165	33	5080	3.63
7	6/27/79	1	0	0.41	1.68	0.764	54	3159	3.27
7	6/27/79	2	10	0.41	1.56	0.754	69	2389	2.94
7	6/27/79	2	30	0.44	1.51	0.767	68	1996	2.78
7	6/27/79	2	50	0.45	1.56	0.775	83	1657	2.47
7	6/27/79	3	20	0.44	1.69	0.749	63	1228	2.21
7	6/27/79	3	50	0.44	2.25	0.777	74	1196	2.86
7	6/27/79	4	20	0.49	2.84	0.803	107	1088	3.23
7	6/27/79	5	0	0.50	3.21	0.803	133	975	4.64
7	7/ 3/79	9	0	0.09	1.52	0.124	62	9642	0.99
7	7/ 3/79	9	30	0.13	1.81	0.233	35	6509	2.83
7	7/ 3/79	10	0	0.02	0.99	0.085	90	12350	0.75
7	7/ 3/79	10	30	0.05	0.93	0.173	33	7345	1.61
7	7/ 3/79	10	44	0.26	1.26	0.847	0	4037	4.26
7	7/ 3/79	10	53	0.52	1.43	1.049	28	2773	4.47
7	7/ 3/79	11	16	0.18	1.19	0.704	11	3178	1.99
7	7/ 3/79	11	50	0.14	1.20	0.581	6	2524	2.31
7	7/ 3/79	15	1	0.26	5.55	0.742	149	576	5.83
7	7/ 3/79	18	34	0.25	10.41	0.641	642	663	11.85

TABLE F2- 7. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
7	7/ 3/79	21	10	0.24	10.11	0.503	319	791	11.07
7	7/ 3/79	21	50	0.20	8.45	0.423	304	803	10.82
7	7/ 3/79	22	30	0.19	7.47	0.311	237	1057	9.69
7	7/14/79	1	7	0.06	1.18	0.110	66	12460	1.61
7	7/14/79	1	27	0.07	0.97	0.083	37	14610	0.79
7	7/14/79	2	11	0.10	1.17	0.257	48	6573	2.14
7	7/14/79	2	31	0.27	1.16	0.668	48	4286	3.13
7	7/14/79	2	48	0.27	1.11	0.718	50	3046	2.62
7	7/14/79	3	20	0.33	1.33	0.814	68	1692	2.88
7	7/14/79	3	48	0.36	1.54	1.207	84	1451	4.39
7	8/19/79	7	18	0.02	0.60	0.334	25	994	0.84
7	8/19/79	22	56	0.05	2.18	0.364	149	1347	6.15
7	8/21/79	19	13	0.08	0.53	0.287	336	2572	2.03
7	8/21/79	19	43	0.09	0.66	0.242	40	854	1.61
7	8/21/79	20	33	0.03	1.35	0.354	101	599	5.46
7	10/23/79	14	50	0.06	12.95	1.211	396	413	21.31
7	10/23/79	18	50	0.07	13.50	1.238	408	441	22.96

TABLE F2- 8. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1979 SITE 8

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
8	3/16/79	14	20	0.30	0.81	0.259	76	151	2.54
8	3/16/79	15	25	0.20	1.02	0.196	89	141	20.67
8	3/16/79	16	20	0.37	0.76	0.180	78	140	5.13
8	3/16/79	17	38	0.15	0.60	0.162	63	128	14.43
8	3/16/79	19	31	0.26	1.47	0.143	94	115	4.43
8	3/17/79	10	20	0.23	1.65	0.252	108	116	6.48
8	3/17/79	11	28	0.13	1.71	0.256	99	125	13.28
8	3/17/79	13	57	0.16	1.02	0.221	87	266	7.62
8	3/17/79	14	15	0.25	1.39	0.271	119	156	4.09
8	3/17/79	15	15	0.22	1.18	0.323	100	132	14.71
8	3/17/79	16	15	0.45	1.12	0.590	110	136	17.32
8	3/17/79	19	15	0.23	1.50	0.441	102	135	10.25
8	3/17/79	20	15	0.32	1.52	0.385	100	131	4.94
8	3/17/79	21	15	0.19	1.76	0.383	92	135	17.15
8	3/17/79	22	15	0.26	1.50	0.372	95	151	5.95
8	3/17/79	23	15	0.25	1.65	0.349	94	130	14.82
8	3/18/79	0	15	0.31	1.56	0.329	75	139	13.67
8	3/18/79	1	15	0.29	1.65	0.334	50	125	7.85
8	3/18/79	2	15	0.20	1.76	0.416	110	132	9.80
8	3/18/79	3	15	0.39	1.69	0.334	112	259	15.25
8	3/18/79	4	15	0.23	1.81	0.377	110	220	6.95
8	3/18/79	5	15	0.28	2.19	0.463	114	223	6.44
8	3/18/79	6	15	0.35	2.20	0.434	123	187	6.64
8	3/18/79	7	15	0.37	0.69	0.414	101	170	8.78
8	3/18/79	8	15	0.33	1.95	0.394	110	175	12.90
8	3/18/79	9	15	0.22	2.10	0.372	59	154	13.92
8	3/18/79	10	15	0.38	1.72	0.427	84	189	12.16
8	3/18/79	11	15	0.48	0.66	0.385	77	260	6.25
8	3/18/79	12	15	0.40	1.70	0.467	63	354	10.95
8	3/18/79	13	15	0.44	1.55	0.487	69	321	5.33
8	3/18/79	15	0	0.31	1.56	0.399	35	286	6.54
8	3/18/79	16	55	0.27	1.55	0.401	69	398	6.64
8	3/18/79	17	20	0.96		0.500	104	353	10.58
8	3/18/79	18	20	0.34	1.37	0.434	97	334	7.17
8	3/18/79	19	20	0.59	0.65	0.425	53	319	11.77
8	3/18/79	20	20	0.33	1.22	0.404	27	292	5.78
8	3/18/79	21	20	0.35	0.92	0.372	25	251	5.50
8	3/18/79	22	20	0.31	1.50	0.347	6	217	4.05
8	3/19/79	1	50	0.50	1.45	0.386	34	214	11.38
8	3/19/79	3	50	0.50	1.62	0.349	41	175	15.52
8	3/19/79	5	50	0.42	1.58	0.386	42	98	8.80
8	3/19/79	8	20	0.40	1.92	0.372	60	100	16.48
8	3/19/79	9	50	0.34	2.21	0.360	57	79	8.25
8	3/19/79	11	50	0.41	2.25	0.352	56	85	18.01
8	3/19/79	13	50	0.36	2.13	0.354	94	97	9.60
8	3/19/79	15	20	0.21	2.90	0.360	85	123	8.48
8	3/19/79	16	50	0.23	2.85	0.344	116	150	10.21
8	3/19/79	18	50	0.22	3.50	0.331	131	162	10.72
8	3/19/79	20	50	0.17	3.89	0.280	157	174	12.65
8	3/19/79	22	50	0.17	4.99	0.246	171	202	13.15
8	3/19/79	23	50	0.32	1.57	0.356	28	125	5.41
8	3/23/79	5	7	0.22	3.89	0.271	91	115	16.69
8	3/23/79	7	50	0.40	4.13	0.349	89	127	15.28
8	3/28/79	13	25	0.10	3.33	0.157	135	189	9.55
8	3/28/79	15	4	0.07	3.03	0.207	121	208	8.65
8	3/28/79	15	30	0.07	2.96	0.207	109	232	12.40
8	3/28/79	17	57	0.18	6.49	0.136	195	208	11.57
8	3/28/79	23	46	0.12	8.98	0.011	270	275	14.81
8	3/29/79	4	38	0.05	9.69	0.010	263	298	15.13
8	3/29/79	9	6	0.22	5.01	0.202	141	372	16.57
8	3/29/79	11	36	0.20	5.22	0.230	131	289	10.50
8	3/29/79	12	30	0.24	5.44	0.263	160	260	11.16
8	3/29/79	13	50	0.21	4.46	0.176	119	480	8.18
8	3/29/79	14	42	0.23	5.23	0.265	141	357	16.10
8	3/29/79	16	30	0.23	5.29	0.255	151	247	10.45
8	3/29/79	18	30	0.31	5.95	0.344	172	248	7.80
8	3/29/79	20	37	0.19	4.98	0.272	131	1576	9.20
8	3/29/79	21	0	0.17	5.61	0.393	138	1433	10.39
8	3/29/79	21	40	0.17	5.53	0.410	147	569	11.45
8	3/29/79	22	5	0.18	5.58	0.402	143	400	10.28
8	3/29/79	22	45	0.19	5.25	0.347	149	248	10.16
8	3/30/79	0	0	0.28	5.21	0.344	162	256	11.89
8	3/30/79	8	10	0.12	5.68	0.241	170	206	11.74
8	3/30/79	9	35	0.11	6.04	0.233	188	212	13.25
8	4/20/79	13	17	0.23	2.85	0.476	173	720	22.21
8	4/20/79	13	49	0.31	2.67	0.484	154	696	14.65
8	4/20/79	14	23	0.46	4.07	0.139	199	858	22.21
8	4/20/79	15	4	0.21	4.84	0.738	182	622	29.11
8	4/20/79	18	14	0.17	9.81	0.504	302	366	42.87
8	6/ 4/79	20	57	0.04	4.52	0.493	168	1457	4.78
8	6/ 9/79	11	56	0.04	15.98	0.101	324	407	19.59
8	6/12/79	18	20	0.35	3.93	0.220	140	32740	1.52
8	6/12/79	18	30	0.23	2.39	0.442	165	31660	2.24
8	6/12/79	18	35	0.25	1.60	0.315	150	31700	2.76
8	6/12/79	18	40	0.26	2.36	0.593	126	24360	3.15
8	6/12/79	18	45	0.26	2.48	1.022	117	25750	3.27
8	6/12/79	18	50	0.27	2.68	1.289	159	22040	3.95
8	6/12/79	18	55	0.25	2.83	1.099	80	19410	3.65
8	6/12/79	19	0	0.24	2.98	1.001	158	15960	3.72
8	6/12/79	19	5	0.25	3.10	0.969	126	15130	3.72
8	6/12/79	19	10	0.25	3.22	0.961	141	13630	3.72
8	6/12/79	19	20	0.24	3.39	0.887	147	11800	4.02
8	6/12/79	19	30	0.21	4.21	0.896	158	7463	4.70
8	6/12/79	19	45	0.23	3.80	0.753	142	5692	4.32
8	6/12/79	20	0	0.21	3.90	0.799	69	5350	4.10
8	6/12/79	20	15	0.22	4.52	0.642	90	4531	4.62
8	6/12/79	20	30	0.22	5.92	0.573	67	3719	5.77
8	6/12/79	20	45	0.23	6.55	0.540	106	3009	6.31
8	6/12/79	21	0	0.22	7.11	0.493	126	3593	7.09
8	6/19/79	22	45	0.16	2.85	0.142	35	10120	3.00
8	6/19/79	23	0	0.15	2.76	0.148	22	10820	1.44
8	6/19/79	23	15	0.13	2.32	0.192	10	7704	1.38
8	6/19/79	23	30	0.12	2.27	0.096	27	5380	1.33
8	6/19/79	23	45	0.10	2.47	0.112	21	7937	1.63

TABLE F2- 8. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				----------PPM----------					
8	6/20/79	0	0	0.10	2.47	0.102	20	4323	1.70
8	6/20/79	0	15	0.10	2.58	0.108	36	3592	1.79
8	6/27/79	0	30	0.18	3.49	0.125	108	51180	2.13
8	6/27/79	0	40	0.10	2.14	0.153	79	22690	0.99
8	6/27/79	0	50	0.08	3.11	0.192	86	20090	1.46
8	6/27/79	1	0	0.10	3.72	0.154	107	20670	1.86
8	6/27/79	1	10	0.09	3.54	0.210	76	15810	1.87
8	6/27/79	1	20	0.06	3.17	0.401	92	9867	2.47
8	6/27/79	1	30	0.06	2.86	0.424	78	8817	3.06
8	6/27/79	1	40	0.08	2.66	0.439	80	7301	3.09
8	6/27/79	1	50	0.07	2.96	0.421	72	5623	3.38
8	6/27/79	2	5	0.07	3.19	0.399	89	4344	3.52
8	6/27/79	2	20	0.07	3.22	0.375	84	2803	4.16
8	6/27/79	2	35	0.07	3.47	0.366	72	2452	4.64
8	7/ 3/79	0	9	0.09	2.70	0.259	191	756	4.50
8	7/ 3/79	8	15	0.19	2.22	0.166	147	13690	0.93
8	7/ 3/79	8	30	0.13	2.15	0.216	131	10940	0.97
8	7/ 3/79	8	45	0.10	1.86	0.328	132	11300	1.19
8	7/ 3/79	8	55	0.24	1.55	0.173	74	28160	0.93
8	7/ 3/79	9	5	0.17	1.72	0.141	0	26890	0.83
8	7/ 3/79	9	15	0.10	1.90	0.244	54	19580	1.19
8	7/ 3/79	9	25	0.34	0.75	0.220	26	35080	1.21
8	7/ 3/79	9	35	0.09	1.76	0.106	40	34660	0.95
8	7/ 3/79	9	40	0.44	0.0	0.067	253	46160	0.97
8	7/ 3/79	9	45	0.13	1.59	0.084	271	21080	1.02
8	7/ 3/79	9	50	0.12	1.62	0.093	56	13900	2.57
8	7/ 3/79	9	55	0.10	2.16	0.097	58	13870	0.87
8	7/ 3/79	10	0	0.04	1.62	0.184	331	29000	0.71
8	7/ 3/79	10	5	0.02	1.41	0.188	38	15480	0.89
8	7/ 3/79	10	10	0.06	1.74	0.250	16	18440	1.59
8	7/ 3/79	10	15	0.07	0.84	0.417	14	25080	1.11
8	7/ 3/79	10	20	0.10	1.07	0.475	26	18900	1.05
8	7/ 3/79	10	25	0.03	1.32	0.557	33	13990	1.11
8	7/ 3/79	10	35	0.02	1.27	0.583	26	8144	1.47
8	7/ 3/79	10	45	0.05	1.19	0.607	149	6545	1.79
8	7/ 3/79	10	55	0.07	1.44	0.412	168	4690	1.97
8	7/ 3/79	11	5	0.06	2.59	0.367	169	3316	2.89
8	7/ 3/79	12	2	0.08	3.37	0.250	231	1424	6.46
8	7/ 3/79	21	24	0.02	1.29	0.438	31	15930	0.91
8	7/ 3/79	21	54	0.06	2.23	0.313	49	6079	1.69
8	7/ 3/79	22	20	0.08	2.73	0.254	176	3591	2.35
8	7/ 3/79	22	56	0.08	3.19	0.294	268	1911	3.58
8	7/13/79	20	10	0.13	1.19	0.101	71	22480	0.73
8	7/13/79	20	20	0.23	1.01	0.092	115	40150	1.04
8	7/13/79	20	25	0.14	1.20	0.083	84	33070	0.93
8	7/13/79	20	30	0.11	0.93	0.091	72	21750	1.51
8	7/13/79	20	35	0.08	1.13	0.126	74	15210	0.99
8	7/13/79	20	40	0.10	1.26	0.210	71	12420	1.19
8	7/13/79	20	55	0.07	1.29	0.320	68	8459	1.28
8	7/13/79	21	10	0.04	1.08	0.354	73	6804	1.54
8	7/13/79	21	25	0.04	1.47	0.383	71	5467	1.45
8	7/14/79	0	55	0.09	0.38	0.085	76	31540	0.82
8	7/14/79	1	0	0.09	0.56	0.116	79	22650	0.56
8	7/14/79	1	5	0.09	0.62	0.152	68	21920	1.13
8	7/14/79	1	15	0.08	0.07	0.124	64	21600	0.71
8	7/14/79	1	20	0.11	0.22	0.125	91	23280	0.60
8	7/14/79	1	25	0.09	0.26	0.134	45	21950	0.67
8	7/14/79	1	30	0.02	0.0	0.128	59	19310	1.12
8	7/14/79	1	35	0.04	0.63	0.196	54	12650	0.59
8	7/14/79	1	40	0.02	0.41	0.192	56	9619	0.70
8	7/14/79	1	45	0.03	0.93	0.180	0	12960	0.63
8	7/14/79	1	50	0.01	0.53	0.140	43	13280	0.63
8	7/14/79	2	0	0.30	0.0	0.208	156	10480	1.69
8	7/14/79	2	5	0.02	0.45	0.415	25	11070	1.23
8	7/14/79	2	10	0.01	0.67	0.496	26	8382	1.13
8	7/14/79	2	15	0.03	0.73	0.460	29	7290	1.23
8	7/14/79	2	20	0.02	0.74	0.485	8	6386	1.26
8	7/14/79	2	25	0.01	0.74	0.485	22	5941	1.35
8	7/14/79	2	35	0.02	0.76	0.440	41	4658	1.84
8	7/14/79	2	45	0.08	1.02	0.196	70	18350	6.12
8	7/14/79	3	0	0.01	1.03	0.262	49	3516	2.43
8	7/14/79	3	15	0.05	1.16	0.271	198	2887	2.68
8	7/14/79	3	30	0.0	1.84	0.291	139	2929	1.08
8	8/19/79	7	6	0.0	0.84	0.122	18	3065	0.43
8	8/19/79	7	32	0.01	0.92	0.127	23	1997	0.43
8	8/19/79	8	4	0.01	0.90	0.186	3	987	0.54
8	8/19/79	21	55	0.05	0.87	0.090	41	4730	0.52
8	8/19/79	22	15	0.01	0.60	0.105	32	3250	0.43
8	8/19/79	22	54	0.01	0.53	0.132	17	3153	0.69
8	8/19/79	23	18	0.01	0.68	0.218	36	2217	1.67
8	8/19/79	23	36	0.02	0.53	0.209	31	2103	1.22
8	8/19/79	23	50	0.01	0.62	0.243	38	1775	1.87
8	8/20/79	0	1	0.03	0.54	0.252	43	1850	1.45
8	8/20/79	0	15	0.02	0.56	0.254	36	1080	1.38
8	8/20/79	0	29	0.03	0.57	0.286	51	809	1.97
8	8/20/79	1	7	0.0	0.59	0.344	65	644	3.06
8	8/20/79	1	27	0.03	0.86	0.411	118	455	4.25
8	8/21/79	19	0	0.18	0.61	0.101	24	4202	2.24
8	8/21/79	19	25	0.11	0.56	0.203	71	2492	1.01
8	8/21/79	19	37	0.08	0.47	0.188	52	3186	1.22
8	8/21/79	19	47	0.09	0.53	0.220	35	2568	1.42
8	8/21/79	20	0	0.08	0.56	0.246	28	1737	2.09
8	8/21/79	20	15	0.08	0.64	0.401	52	1482	2.07
8	8/21/79	20	43	0.12	0.86	0.427	56	843	4.51
8	8/21/79	21	5	0.0	0.69	0.486	69	606	9.10
8	11/21/79	19	20	0.19	2.85	0.240	37	416	5.21

TABLE F2- 9. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1980 SITE 1

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
1	1/16/80	15	20	0.43	2.62	2.375	211	425	58.00
1	1/16/80	17	18	0.29	2.08	2.252	175	735	57.52
1	1/16/80	22	16	0.34	2.30	2.203	187	240	56.50
1	2/20/80	14	16	0.65	2.17	1.732	125	279	19.27
1	2/21/80	12	6	0.65	2.50	1.858	146	448	19.43
1	2/21/80	13	22	0.69	2.10	1.782	141	348	19.72
1	2/21/80	15	14	0.85	2.79	1.955	172	355	23.60
1	2/21/80	15	58	0.67	2.01	1.975	187	318	23.46
1	2/21/80	17	47	0.64	2.40	1.948	168	274	20.78
1	2/21/80	18	55	0.65	2.99	2.010	166	261	5.23
1	2/21/80	19	30	0.61	2.17	1.982	162	274	21.51
1	2/21/80	21	30	0.58	1.85	1.886	135	237	19.25
1	2/21/80	23	30	0.60	2.18	1.934	146	207	41.11
1	2/22/80	1	30	0.56	2.40	1.952	116	265	11.18
1	2/22/80	3	30	0.51	1.62	1.976	122	267	21.35
1	2/22/80	5	30	0.63	2.14	2.007	162	207	24.50
1	2/22/80	7	30	0.56	1.49	1.968	191	225	22.75
1	2/22/80	7	37	0.64	2.63	2.321	221	276	36.10
1	2/22/80	9	30	0.58	2.17	2.242	229	365	28.48
1	2/22/80	11	30	0.54	2.24	2.289	223	446	29.60
1	2/22/80	13	30	0.55	1.55	2.359	188	936	26.07
1	2/22/80	15	30	0.41	1.19	2.320	138	360	22.61
1	2/22/80	17	30	0.50	1.09	2.164	152	287	24.06
1	2/22/80	20	30	0.58	1.05	2.093	204	247	25.46
1	2/23/80	0	30	0.61	1.29	2.093	213	257	28.67
1	2/23/80	4	30	0.69	1.57	2.125	230	321	32.66
1	2/23/80	11	30	0.81	1.39	2.038	231	608	29.74
1	2/23/80	13	36	0.67	1.32	2.109	177	358	28.61
1	3/ 9/80	15	45	0.60	0.90	0.541	22	48	12.56
1	3/ 9/80	17	32	0.47	0.63	0.917	62	113	11.23
1	3/14/80	14	4	0.58	0.97	0.661	59	499	10.78
1	3/14/80	15	46	0.55	0.83	1.305	76	264	10.72
1	3/14/80	17	0	0.62	1.06	1.466	106	322	18.56
1	3/14/80	20	0	0.58	1.08	1.482	105	104	14.35
1	3/14/80	23	0	0.84	1.11	1.563	99	117	28.29
1	3/15/80	2	0	0.66	1.09	1.482	95	121	15.19
1	3/15/80	5	0	0.71	1.03	1.553	105	105	23.43
1	3/15/80	8	0	0.62	0.99	1.548	103	127	15.88
1	3/15/80	10	30	0.67	0.91	1.619	110	314	21.99
1	3/15/80	12	0	0.54	0.92	1.523	112	891	20.37
1	3/15/80	13	0	0.50	0.46	1.629	101	740	16.12
1	3/15/80	14	30	0.53	0.21	1.721	115	980	16.62
1	3/15/80	16	30	0.62	0.02	1.777	112	647	19.62
1	3/15/80	19	30	0.77	0.41	1.955	137	357	24.69
1	3/15/80	23	30	0.82	1.05	1.955	197	238	36.03
1	3/16/80	3	30	0.88	1.06	2.045	180	248	38.19
1	3/16/80	7	30	0.95	1.24	1.895	204	257	43.83
1	3/16/80	11	30	0.90	1.24	1.721	205	288	38.01
1	3/16/80	16	39	0.65	1.75	1.193	208	244	36.06
1	5/29/80	7	40	0.38	2.58	0.114	116	7036	2.10
1	5/29/80	7	45	0.49	3.57	0.106	133	4959	2.77
1	5/29/80	7	50	0.28	3.32	0.102	127	5807	3.38
1	5/29/80	7	55	0.27	3.11	0.116	133	4124	3.59
1	5/29/80	8	0	0.26	3.57	0.123	151	2972	3.26
1	5/29/80	8	5	0.49	4.07	0.139	176	2008	3.89
1	5/29/80	8	10	0.46	3.84	0.154	155	1289	5.95
1	5/29/80	8	35	0.20	2.08	0.083	123	25170	1.04
1	5/29/80	8	39	0.21	0.79	0.152	83	9968	3.50
1	5/29/80	8	44	0.21	0.99	0.168	129	17950	2.25
1	5/29/80	8	49	0.31	0.75	0.222	104	9211	3.41
1	5/29/80	8	54	0.30	0.70	0.245	84	6709	2.97
1	5/29/80	9	2	0.26	0.86	0.270	95	5435	2.06
1	5/29/80	9	7	0.29	0.92	0.258	88	3043	6.65
1	5/29/80	9	21	0.21	1.03	0.384	104	1687	7.70
1	5/30/80	1	37	0.03	1.11	0.145	70	6649	2.47
1	5/30/80	1	42	0.03	1.19	0.145	97	4434	1.60
1	5/30/80	1	47	0.03	1.09	0.154	91	3509	5.25
1	5/30/80	1	52	0.03	1.03	0.166	92	2721	1.45
1	5/30/80	1	57	0.02	1.29	0.166	94	2262	1.57
1	6/ 2/80	17	7	0.29	1.85	0.112	123	28440	1.22
1	6/ 2/80	17	9	0.23	1.32	0.119	122	27160	4.29
1	6/ 2/80	17	18	0.06	0.64	0.163	97	9090	0.77
1	6/ 2/80	17	23	0.05	0.56	0.161	102	6905	0.84
1	6/ 2/80	17	26	0.06	0.57	0.264	99	10920	2.20
1	6/ 2/80	17	27	0.06	0.52	0.145	83	8873	0.67
1	6/ 2/80	17	29	0.05	0.49	0.145	96	8544	2.67
1	6/ 2/80	17	35	0.04	0.38	0.173	86	5731	0.57
1	6/ 2/80	17	36	0.14	0.39	0.163	95	6020	0.80
1	6/ 2/80	17	40	0.03	0.37	0.196	101	4931	0.75
1	6/ 2/80	17	42	0.07	0.37	0.194	86	4362	0.83
1	6/ 2/80	17	45	0.08	0.40	0.194	76	3915	1.31
1	6/ 2/80	17	47	0.06	0.52	0.180	79	3275	0.62
1	6/ 2/80	17	49	0.10	0.43	0.231	93	3042	1.48
1	6/ 2/80	17	55	0.47	0.48	0.229	69	2825	1.75
1	6/ 2/80	18	0	0.10	0.61	0.222	86	2593	4.15
1	6/ 2/80	18	5	0.06	0.84	0.166	82	4340	0.82
1	6/ 2/80	18	11	0.04	0.48	0.173	111	2990	0.65
1	6/ 2/80	18	16	0.06	0.50	0.208	99	1904	0.67
1	6/ 2/80	18	21	0.16	0.76	0.205		1418	2.36
1	6/ 2/80	18	27	0.25	0.87	0.210	102	1314	3.43
1	6/ 6/80	18	54	0.51	1.16	0.107	55	10380	2.94
1	6/ 6/80	19	2	0.36	0.71	0.194	38	5962	2.52
1	6/ 7/80	5	9	0.18	0.52	0.142	32	8996	1.24
1	6/ 7/80	5	11	0.23	0.47	0.169	25	7275	1.01
1	6/ 7/80	5	17	0.21	0.40	0.182	18	4018	0.93
1	6/ 7/80	5	23	0.19	0.39	0.199	20	3122	1.92
1	6/ 7/80	5	34	0.19	0.43	0.206	19	1861	1.52
1	6/13/80	21	37	0.39	1.13	0.110	28	9960	2.40
1	6/13/80	21	48	0.21	1.13	0.091	10	5489	2.02
1	6/13/80	21	54	0.28	1.52	0.106	24	3208	3.18
1	6/15/80	3	33	0.26	0.94	0.117		6684	1.66
1	6/15/80	3	48	0.20	0.98	0.103		3770	1.29
1	6/15/80	3	59	0.23	1.03	0.076		2991	1.62
1	8/ 6/80	1	59	0.06	0.20	0.045	19	8936	1.14

TABLE F2- 9. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
1	8/11/80	4	37	0.05	0.25	0.100	56	7186	1.38
1	8/11/80	4	53	0.02	0.20	0.222	79	11	0.84

TABLE F2-10. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1980 SITE 2

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
2	1/16/80	15	20	0.41	2.65	1.935	191	528	54.90
2	1/16/80	17	18	0.14	4.02	1.878	175	1498	47.95
2	1/16/80	22	16	0.42	3.48	1.789	160	307	49.20
2	1/25/80	12	55	0.87	4.02	2.024	246	406	
2	2/21/80	12	6	0.56	1.60	1.544	103	693	11.77
2	2/21/80	13	22	0.60	1.23	1.433	78	412	8.00
2	2/21/80	14	12	0.60	1.28	1.443	61	404	8.05
2	2/21/80	15	12	0.63	1.68	1.404	60	437	12.05
2	2/21/80	15	55	0.59	1.34	1.389	78	360	8.70
2	2/21/80	17	45	0.59	1.19	1.499	81	239	8.42
2	2/21/80	18	45	0.54	1.26	1.541	87	213	9.48
2	2/21/80	18	53	0.55	1.23	1.547	93	222	9.08
2	2/21/80	20	45	0.52	1.29	1.607	102	207	10.89
2	2/21/80	22	45	0.24	1.43	1.589	82	172	11.37
2	2/22/80	0	45	0.30	1.22	1.619	93	621	13.29
2	2/22/80	2	45	0.22	1.31	1.655	96	532	11.75
2	2/22/80	4	45	0.26	1.37	1.679	83	529	14.43
2	2/22/80	6	45	0.24	1.44	1.673	111	309	12.51
2	2/22/80	7	38	0.26	1.44	1.741	113	165	12.27
2	2/22/80	8	45	0.21	1.18	1.625	115	241	12.02
2	2/22/80	11	0	0.14	0.92	1.661	104	641	12.69
2	2/22/80	13	0	0.25	0.72	1.762	110	1798	7.29
2	2/22/80	15	0	0.18	0.74	1.823	100	505	15.02
2	2/22/80	17	0	0.17	1.09	1.899	63	249	15.53
2	2/22/80	20	0	0.20	1.23	2.044	136	215	17.40
2	2/22/80	23	0	0.10	1.43	2.031	112	163	21.30
2	2/23/80	4	0	0.18	1.58	1.927	126	177	22.53
2	2/23/80	13	32	0.17	1.76	1.762	99	914	23.58
2	3/ 9/80	15	42	0.52	1.23	0.799	88	197	17.52
2	3/ 9/80	17	27	0.47	1.14	0.741	206	235	16.35
2	3/14/80	14	0	0.45	1.24	0.726	57	1157	16.68
2	3/14/80	17	0	0.55	1.06	1.100	37	1608	20.70
2	3/14/80	20	0	0.50	1.10	1.113	44	233	25.27
2	3/14/80	23	0	0.50	1.10	1.129	128	177	26.85
2	3/15/80	2	0	0.50	1.10	1.204	119	194	25.52
2	3/15/80	5	0	0.60	1.08	1.195	134	214	40.23
2	3/15/80	8	0	0.45	1.10	1.113	118	2337	34.53
2	3/15/80	10	30	0.40	1.01	0.976	95	3542	38.58
2	3/15/80	12	0	0.50	0.90	0.943	103	6658	29.02
2	3/15/80	13	0	0.20	0.49	0.860	27	5137	11.10
2	3/15/80	13	41	0.20	0.46	0.902	11	4669	13.73
2	3/15/80	14	0	0.30	0.50	0.935	63	5010	13.44
2	3/15/80	16	0	0.50	0.50	0.922	71	8348	15.67
2	3/15/80	16	56	0.35	1.35	1.191	75	2351	17.46
2	3/15/80	17	0	0.30	1.35	1.253	78	3428	33.24
2	3/16/80	13	25	0.40	1.81	1.183	127	984	23.30
2	3/16/80	16	37	0.40	1.91	1.166	119	337	20.65
2	3/16/80	18	12	0.62	1.38	1.100	112	281	22.02
2	5/29/80	7	37	0.78	0.54	0.156	123	10000	2.66
2	5/29/80	7	39	2.43	6.06	0.208	170	17410	3.64
2	5/29/80	7	41	1.88	3.21	0.222	146	14030	1.63
2	5/29/80	7	43	1.82	3.38	0.245	142	11100	1.75
2	5/29/80	7	45	1.48	3.19	0.243	129	9003	1.58
2	5/29/80	7	47	1.42	3.15	0.249	142	7895	2.11
2	5/29/80	7	49	1.33	3.14	0.231	128	6922	1.55
2	5/29/80	7	51						
2	5/29/80	7	53	1.46	4.45	0.208	146	5848	1.93
2	5/29/80	7	55	1.78	6.17	0.224	160	5620	2.65
2	5/29/80	7	57	2.06	7.14	0.206	167	4938	3.60
2	5/29/80	7	59	1.96	6.23	0.224	168	4691	4.86
2	5/29/80	8	1	1.85	4.58	0.258	1	4218	2.03
2	5/29/80	8	8	1.47	4.05	0.270	139	3309	1.71
2	5/29/80	8	13	1.82	4.42	0.270	138	2563	2.03
2	5/29/80	8	18	1.96	4.81	0.280	134	2196	2.29
2	5/29/80	8	23	1.94	5.23	0.287	311	2112	2.29
2	5/29/80	8	28	0.97	2.68	0.158	115	11260	9.67
2	5/29/80	8	33	1.76	4.20	0.287	103	3900	1.67
2	5/29/80	8	35	0.82	1.34	0.139	84	27280	0.72
2	5/29/80	8	37	1.24	1.33	0.237	102	46470	0.85
2	5/29/80	8	39	1.24	0.99	0.239	88	44810	2.66
2	5/29/80	8	41	1.08	1.06	0.224	106	30280	2.66
2	5/29/80	8	43	0.91	1.07	0.210	69	19470	4.58
2	5/29/80	8	45	0.98	1.01	0.268	67	17490	0.50
2	5/29/80	8	47	1.18	1.34	0.274	94	14870	1.58
2	5/29/80	8	49	1.18	1.59	0.293	90	12540	1.22
2	5/29/80	8	51	1.30	1.55	0.324	89	9701	1.43
2	5/29/80	8	53	1.27	1.72	0.332	102	7831	1.26
2	5/29/80	8	55	1.32	1.07	0.334	82	4922	4.38
2	5/29/80	9	5	1.24	2.35	0.332	99	3555	4.31
2	5/29/80	9	10	1.66	3.38	0.314	97	2689	4.15
2	5/29/80	9	17	1.80	4.49	0.326	161	1596	4.02
2	5/29/80	9	24	2.10	5.20	0.337	134	1050	4.34
2	5/29/80	9	30	2.01	5.73	0.312	139	745	4.68
2	5/29/80	9	40	1.64	4.53	0.260	162	3804	2.68
2	5/29/80	9	45	1.35	3.16	0.210	108	6266	5.07
2	5/29/80	9	50	1.45	6.61	0.160	161	1671	2.86
2	5/29/80	9	55	1.47	6.93	0.145	154	976	
2	5/30/80	1	33	1.14	2.71	0.266	139	15930	2.93
2	5/30/80	1	38	1.23	3.47	0.253	135	13330	2.88
2	5/30/80	1	40	1.26	2.33	0.297	109	12250	3.29
2	5/30/80	1	42	1.29	2.10	0.312	118	9265	1.06
2	5/30/80	1	44	1.26	2.04	0.320	125	7632	1.11
2	5/30/80	1	48	0.98	2.01	0.322	133	5775	1.11
2	5/30/80	1	54	1.26	2.15	0.332	132	4209	1.00
2	5/30/80	1	59	1.15	2.48	0.332	111	3361	1.11
2	5/30/80	2	4	1.22	2.82	0.324	87	2810	1.44
2	5/30/80	2	9	1.30	3.16	0.320	82	2243	2.38
2	5/30/80	2	14	1.38	3.79	0.332	86	2047	1.69
2	5/30/80	2	19	1.47	4.31	0.332	95	1818	2.06
2	5/30/80	2	24	1.49	4.62	0.301	102	1372	5.12
2	6/ 2/80	17	2	1.88	2.49	0.173	143	26040	1.94
2	6/ 2/80	17	4	0.98	2.23	0.163	139	36290	0.86
2	6/ 2/80	17	6	0.80	1.77	0.163	157	28730	1.04
2	6/ 2/80	17	8	0.63	1.69	0.170	147	25070	1.11

TABLE F2-10. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				ppm					
2	6/ 2/80	17	10	0.61	1.39	0.201	102	20700	0.68
2	6/ 2/80	17	13	0.53	1.30	0.217	108	15910	1.59
2	6/ 2/80	17	15	0.51	1.24	0.219	54	13570	1.18
2	6/ 2/80	17	17	0.45	1.21	0.226	51	11820	1.25
2	6/ 2/80	17	19	0.61	1.17	0.222	51	11660	1.49
2	6/ 2/80	17	21	0.37	1.04	0.219	52	12630	2.42
2	6/ 2/80	17	24	0.34	0.94	0.194	56	11660	3.62
2	6/ 2/80	17	26	0.33	0.91	0.208	38	11330	1.24
2	6/ 2/80	17	28	0.30	0.86	0.215	25	12850	1.04
2	6/ 2/80	17	30	0.29	0.78	0.229		13240	0.57
2	6/ 2/80	17	32	0.27	0.91	0.236	17	11450	0.65
2	6/ 2/80	17	35	0.27	0.93	0.238	15	9426	
2	6/ 2/80	17	37	0.27	0.95	0.247		8368	1.06
2	6/ 2/80	17	39	0.26	1.06	0.257	12	7130	0.75
2	6/ 2/80	17	41	0.28	1.18	0.264	10	6152	2.66
2	6/ 2/80	17	43	0.30	1.26	0.276		5712	2.60
2	6/ 2/80	17	46	0.37	1.43	0.280		4955	1.62
2	6/ 2/80	17	51	0.35	1.43	0.287		4792	
2	6/ 2/80	17	56	0.38	1.67	0.278		3765	0.92
2	6/ 2/80	18	1	0.31	1.85	0.257		3150	0.78
2	6/ 2/80	18	7	0.27	2.52	0.187		4874	1.70
2	6/ 2/80	18	12	0.29	2.10	0.236		7318	4.09
2	6/ 2/80	18	14	0.31	2.45	0.261		6071	1.50
2	6/ 2/80	18	16	0.48	1.65	0.245		5031	2.85
2	6/ 2/80	18	19	0.32	1.35	0.261		4270	2.34
2	6/ 2/80	18	24	0.35	1.30	0.283	13	3353	3.43
2	6/ 6/80	18	51	1.02	1.39	0.143	32	6548	2.12
2	6/ 6/80	18	55	0.53	2.20	0.148	31	15580	1.37
2	6/ 6/80	18	56	0.76	2.20	0.165	19	20400	1.68
2	6/ 6/80	18	57	0.78	2.28	0.190	21	28570	1.62
2	6/ 6/80	18	59	0.71	2.23	0.192	20	19880	1.57
2	6/ 6/80	19	1	0.61	2.23	0.197	17	17140	1.44
2	6/ 6/80	19	5	0.65	2.14	0.212	15	10470	2.13
2	6/ 6/80	19	8	0.64	2.26	0.246	16	11800	1.37
2	6/ 6/80	19	10	0.62	2.32	0.243	12	8937	1.37
2	6/ 6/80	19	20	0.50	2.75	0.287	10	5282	1.46
2	6/ 7/80	5	3	0.38	1.17	0.140	13	27640	0.96
2	6/ 7/80	5	5	0.36	0.91	0.178	12	20330	0.71
2	6/ 7/80	5	7	0.42	1.00	0.198	14	23240	0.88
2	6/ 7/80	5	9	0.38	0.87	0.204	22	14990	0.88
2	6/ 7/80	5	11	0.36	0.86	0.201	35	15510	0.79
2	6/ 7/80	5	14	0.38	0.83	0.188	22	15550	0.88
2	6/ 7/80	5	16	0.28	0.91	0.243	26	14200	0.85
2	6/ 7/80	5	18	0.32	0.86	0.212	30	11930	0.79
2	6/ 7/80	5	20	0.35	0.96	0.250	31	8908	0.98
2	6/ 7/80	5	26	0.30	0.96	0.266	18	7370	0.82
2	6/ 7/80	5	38	0.24	1.64	1.164	48	3966	1.11
2	6/13/80	21	34	0.51	1.00	0.125	27	17550	1.05
2	6/13/80	21	37	0.47	1.12	0.108	68	17360	1.13
2	6/13/80	21	39	0.46	1.07	0.122	75	17840	1.06
2	6/13/80	21	42	0.44	1.04	0.141	80	19840	1.33
2	6/13/80	21	44	0.43	1.00	0.137	45	18270	0.83
2	6/13/80	21	47	0.44	1.04	0.147	61	15170	1.23
2	6/13/80	21	49	0.43	0.96	0.165	63	12780	1.02
2	6/13/80	21	52	0.44	0.94	0.170	56	10870	1.10
2	6/13/80	21	54	0.34	0.93	0.187	70	7554	0.90
2	6/13/80	21	57	0.36	0.98	0.176	70	9753	0.98
2	6/13/80	21	59	0.38	1.00	0.177	62	9263	0.92
2	6/13/80	22	2	0.45	1.29	0.266	87	7135	2.01
2	6/13/80	22	8	0.30	1.38	0.177	85	5946	1.09
2	6/13/80	22	14	0.30	2.12	0.209	83	4601	1.38
2	6/13/80	22	20	0.44	2.09	0.186	139	4791	2.86
2	6/15/80	3	22	0.41	0.82	0.122	42	31650	0.59
2	6/15/80	3	25						
2	6/15/80	3	28	0.39	2.81	0.124	72	22220	1.73
2	6/15/80	3	31	0.22	1.39	0.182	80	17540	1.42
2	6/15/80	3	34	0.40	0.81	0.125	64	14670	0.62
2	6/15/80	3	37	0.67	0.75	0.113	70	12780	2.51
2	6/15/80	3	40	0.38	0.53	0.124	42	10520	0.51
2	6/15/80	3	43						
2	6/15/80	3	46	0.38	0.50	0.140	53	8614	0.46
2	6/15/80	3	49	0.77	0.62	0.153	64	7808	3.63
2	6/15/80	3	52	0.31	0.73	0.117	46	5016	1.39
2	6/15/80	3	58	0.24	0.78	0.137	33	4694	0.85
2	6/15/80	4	6	0.24	1.01	0.161		4890	0.76
2	6/15/80	4	14	0.22	1.40	0.197		3522	0.70
2	8/ 6/80	1	58	0.10	0.15	0.096	41	6363	2.22
2	8/ 6/80	2	5	0.19	0.35	0.156	74	3297	1.56
2	8/ 6/80	2	10	0.18	0.41	0.192	78	2014	1.64
2	8/ 6/80	2	14	0.17	0.45	0.224	84	1486	1.82
2	8/ 6/80	2	17	0.24	0.59	0.356	83	1244	1.96
2	8/ 6/80	2	21	0.20	0.54	0.224	60	884	1.89
2	8/ 6/80	2	23	0.19	0.56	0.222	87	581	1.72
2	8/ 6/80	2	27	0.17	0.56	0.177	113	735	1.74
2	8/ 6/80	2	32	0.14	0.66	0.185	113	769	2.18
2	8/ 6/80	2	38	0.15	0.87	0.220	62	711	2.32
2	8/11/80	4	35	0.06	0.26	0.085	54	2805	1.00
2	8/11/80	4	39	0.06	0.27	0.151	47	2860	1.26
2	8/11/80	4	43	0.05	0.23	0.190	89	1683	1.18
2	8/11/80	4	47	0.05	0.24	0.237	102	1014	1.46
2	8/11/80	4	54	0.11	0.29	0.281	82	773	1.30
2	8/11/80	4	59	0.10	0.27	0.277	79	451	1.50

TABLE F2-11. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1980 SITE 3

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
3	2/21/80	12	25	0.62	0.91	0.961	30	84	2.42
3	2/21/80	13	52	0.66	0.79	0.895		64	2.10
3	2/21/80	14	47	0.51	0.85	0.986		42	1.35
3	2/21/80	16	25	0.50	0.95	1.105		49	1.57
3	2/21/80	17	30	0.52	0.98	1.179	41	60	1.64
3	2/21/80	20	30	0.51	1.00	1.422	45	62	1.89
3	2/22/80	0	30	0.66	1.06	1.553	46	88	2.36
3	2/22/80	4	30	0.64	1.12	1.613	50	10	2.65
3	2/22/80	8	30	0.65	1.13	1.607	76	106	3.03
3	2/22/80	14	30	0.43	0.87	1.661	55	95	3.03
3	2/22/80	18	30	0.36	0.66	1.658	66	93	3.43
3	2/22/80	22	30	0.33	0.55	1.673	85	129	4.37
3	2/23/80	2	30	0.28	0.45	1.726	78	110	5.11
3	2/23/80	6	30	0.38	0.37	1.792	137	168	6.21
3	2/23/80	9	0	0.24	0.36	1.804	143	170	5.96
3	3/ 9/80	16	51	0.50	1.52	0.868	46	90	16.26
3	3/14/80	16	30	0.46	1.36	0.833	86	105	7.86
3	3/14/80	18	0	0.50	1.90	0.821	43	87	15.81
3	3/14/80	21	0	0.43	0.59	0.919	123	134	3.03
3	3/15/80	0	30	0.48	0.65	0.970	130	143	5.19
3	3/15/80	2	30	0.35	0.44	0.691	62	71	1.92
3	3/15/80	4	30	0.46	0.75	0.868	135	147	3.81
3	3/15/80	7	30	0.45	0.62	0.695	124	135	8.85
3	3/15/80	10	0	0.43	0.51	0.670	106	121	4.82
3	3/15/80	13	0	0.38	0.41	0.730	85	102	3.38
3	3/15/80	15	20	0.43	0.44	0.725	83	97	6.27
3	3/15/80	17	30	0.33	0.45	0.730	79	87	15.28
3	3/15/80	21	30	0.35	0.32	0.672	71	82	7.47
3	3/16/80	5	30	0.33	0.31	0.655	51	63	3.42
3	3/16/80	9	30	0.33	0.33	0.630	77	85	2.90
3	3/16/80	13	30	0.30	2.62	0.366	58	61	8.92
3	8/ 6/80	2	2	0.43	0.67	1.246	99	127	5.13
3	8/ 6/80	2	21	0.41	0.49	0.763	86	99	4.30
3	8/ 6/80	2	23	0.28	0.30	0.648	71	84	2.23
3	8/ 6/80	2	25	0.56	0.43	0.784	86	140	4.80

TABLE F2-12. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1980 SITE 4

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	1/ 1/80	17	33	0.0	9.46	0.036	196	199	17.85
4	1/ 2/80	17	20	0.0	8.95	0.036	190	218	18.20
4	1/ 3/80	17	19	0.0	9.06	0.031	187	188	20.02
4	1/ 4/80	17	1	0.0	9.87	0.006	200	320	19.27
4	1/ 5/80	17	31	0.02	8.57	0.008	240	334	21.53
4	1/ 6/80	17	15	0.03	9.99	0.010	219	338	19.31
4	1/ 7/80	17	10	0.08	6.86	0.007	238	297	14.92
4	1/ 9/80	17	27	0.04	9.43	0.005	192	397	16.86
4	1/10/80	17	8	0.02	5.14	0.003	225	304	17.17
4	1/11/80	17	20	0.0	8.60	0.036	224	299	18.77
4	1/12/80	17	2	0.13	7.86	0.048	251	415	20.01
4	1/13/80	17	9	0.0	9.35	0.026	263	369	18.28
4	1/14/80	17	23	0.10	8.90	0.020	238	314	17.80
4	1/15/80	17	11	0.0	8.07	0.048	265	291	18.36
4	1/16/80	11	10	0.60	3.53	0.168	114	1503	14.77
4	1/16/80	14	54	1.11	3.83	0.279	140	1900	17.94
4	1/16/80	17	58	1.61	3.57	0.313	112	1709	18.05
4	1/16/80	23	3	1.10	5.41	0.514	150	1386	20.49
4	1/17/80	9	30	0.07	7.34	0.550	233	590	20.83
4	1/17/80	17	51	0.24	9.01	0.266	305	579	21.01
4	1/18/80	17	35	0.01	10.11	0.087	338	495	17.19
4	1/19/80	17	11	0.0	9.60	0.059	324	378	17.39
4	1/20/80	17	7	0.0	10.06	0.051	346	370	17.03
4	1/21/80	18	15	0.0	8.76	0.046	332	340	17.11
4	1/22/80	17	35	0.0	9.89	0.046	344	437	15.47
4	1/23/80	17	10	0.0	10.03	0.037	330	351	16.77
4	1/24/80	17	17	0.0	8.83	0.047	301	330	14.56
4	1/25/80	17	9	0.46	6.77	0.060	205	302	14.29
4	1/26/80	17	45	0.25	7.96	0.022	226	310	16.57
4	1/27/80	17	49	0.16	8.43	0.026	248	306	16.18
4	1/28/80	17	13	0.24	11.14	0.045	294	372	20.66
4	1/29/80	17	9	0.22	9.00	0.053	245	320	18.82
4	1/30/80	17	0	0.16	9.67	0.041	285	341	19.73
4	1/31/80	17	20	0.15	9.48	0.098	273	336	18.71
4	2/ 1/80	17	11	0.16	8.27	0.035	232	293	20.46
4	2/ 2/80	17	35	0.23	10.19	0.050	378	424	23.86
4	2/ 3/80	17	6	0.22	12.84	0.042	442	503	31.65
4	2/ 4/80	17	34	0.21	12.35	0.043	446	529	29.60
4	2/ 5/80	17	3	0.20	9.96	0.052	350	397	24.75
4	2/ 6/80	17	26	0.23	11.02	0.033	338	389	24.73
4	2/ 7/80	17	1	0.26	8.94	0.040	371	427	23.73
4	2/ 8/80	17	38	0.26	11.42	0.039	463	544	32.70
4	2/ 9/80	17	7	0.22	10.62	0.035	366	479	23.78
4	2/10/80	17	10	0.18	8.54	0.038	339	448	23.07
4	2/11/80	17	25	0.23	9.54	0.038	406	525	29.09
4	2/12/80	17	8	0.20	9.21	0.045	396	522	22.95
4	2/13/80	17	26	0.15	7.29	0.040	281	397	20.20
4	2/14/80	17	25	0.29	6.01	0.032	323	411	19.35
4	2/15/80	19	25	0.17	7.94	0.033	350	437	23.66
4	2/16/80	17	5	0.17	7.54	0.020	309	377	18.03
4	2/17/80	17	48	0.16	7.46	0.015	248	351	17.53
4	2/18/80	17	4	0.15	5.32	0.010	230	321	11.89
4	2/19/80	17	17	0.15	5.91	0.009	236	315	14.47
4	2/20/80	17	21	0.30	6.36	0.009	166	342	14.91
4	2/21/80	11	41	1.81	2.64	0.237	121	669	8.25
4	2/21/80	13	58	1.47	1.54	0.274	92	1123	5.22
4	2/21/80	14	44	1.50	1.54	0.333	73	1416	5.82
4	2/21/80	19	23	1.75	1.59	0.391	107	1231	6.64
4	2/21/80	23	18	1.86	1.80	0.566	111	773	7.88
4	2/22/80	4	55	2.07	2.36	0.754	124	688	9.30
4	2/22/80	9	6	1.98	2.69	0.730	127	598	9.71
4	2/22/80	13	23	1.66	2.83	0.568	121	888	11.11
4	2/22/80	17	50	1.48	2.87	0.502	123	1613	10.78
4	2/22/80	23	24	1.74	2.51	0.658	122	1260	10.57
4	2/23/80	8	53	2.32	3.48	0.895	158	473	13.58
4	2/23/80	17	10	1.68	4.06	0.529	194	467	12.61
4	2/24/80	7	55	1.01	4.31	0.351	198	423	12.77
4	2/24/80	17	15	0.98	5.15	0.268	212	634	14.40
4	2/25/80	17	44	0.80	5.17	0.142	216	306	12.77
4	2/26/80	17	47	0.57	4.65	0.095	230	300	12.71
4	2/27/80	17	36	0.60	8.45	0.112	294	370	18.31
4	2/28/80	17	33	0.50	8.50	0.082	274	363	20.43
4	2/29/80	17	28	0.42	8.70	0.073	303	357	17.79
4	3/ 1/80	17	17	0.39	8.30	0.057	290	355	16.91
4	3/ 2/80	17	11	0.33	8.55	0.062	285	367	18.50
4	3/ 3/80	17	27	0.36	10.42	0.071	267	441	22.76
4	3/ 4/80	17	25	0.36	7.44	0.071	238	382	16.12
4	3/ 5/80	17	22	0.32	7.11	0.116	252	346	14.62
4	3/ 6/80	17	28	0.27	8.21	0.013	258	319	16.85
4	3/ 7/80	17	22	0.31	9.03	0.012	274	306	17.93
4	3/ 8/80	17	38	0.28	8.18	0.007	243	294	17.18
4	3/ 9/80	17	37	0.40	6.63	0.035	242	258	15.27
4	3/ 9/80	23	18	1.07	2.42	0.150	129	287	6.02
4	3/10/80	9	47	0.92	1.81	0.210	65	334	5.76
4	3/10/80	17	21	1.24	1.65	0.244	26	607	5.36
4	3/11/80	17	37	1.45	2.58	0.345	38	357	8.54
4	3/12/80	17	39	1.30	2.61	0.249	133	238	9.19
4	3/13/80	17	40	1.10	5.55	0.169	95	323	13.30
4	3/14/80	17	41	0.67	4.33	0.113	184	623	11.11
4	3/14/80	23	6	1.06	1.47	0.324	69	1036	6.10
4	3/15/80	4	28	1.23	1.47	0.514	118	357	6.32
4	3/15/80	11	15	1.24	1.74	0.377	148	1053	6.37
4	3/15/80	14	4	0.86	1.05	0.167	119	7407	5.10
4	3/15/80	17	40	1.02	0.77	0.082	113	8070	5.10
4	3/15/80	21	36	1.15	0.76	0.140	155	4199	7.22
4	3/16/80	2	0	1.25	1.26	0.223	198	3383	8.78
4	3/16/80	6	58	1.30	1.97	0.259	200	2119	10.25
4	3/16/80	11	52	1.15	2.31	0.253	193	1607	9.94
4	3/16/80	15	0	1.10	3.10	0.236	155	2118	10.47
4	3/16/80	22	31	1.20	3.38	0.254	151	1565	12.42
4	3/17/80	8	43	1.15	4.05	0.233	199	629	12.03
4	3/17/80	17	45	1.05	4.83	0.166	188	545	12.09
4	3/18/80	17	47	0.45	6.18	0.070	253	647	12.69
4	3/19/80	18	10	0.44	6.49	0.054	211	478	13.11

TABLE F2-12. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	3/20/80	17	52	0.43	6.86	0.055	184	452	13.44
4	3/21/80	18	25	0.46	6.47	0.048	201	368	13.44
4	3/22/80	17	43	0.53	6.11	0.099	154	330	13.11
4	3/23/80	17	20	0.55	6.20	0.148	166	357	16.92
4	3/24/80	17	42	0.48	6.40	0.109	165	399	13.44
4	3/25/80	17	56	0.16	8.92	0.022	252	408	22.63
4	3/26/80	17	38	0.14	9.67	0.019	252	393	21.96
4	3/27/80	17	0	0.13	9.16	0.026	261	383	18.71
4	3/28/80	17	50	0.24	9.13	0.025	258	359	21.43
4	3/29/80	17	43	0.17	8.52	0.020	300	409	18.48
4	3/30/80	17	56	0.12	9.60	0.025	327	445	20.45
4	3/31/80	17	40	0.14	12.27	0.021	359	472	24.48
4	4/ 1/80	17	44	0.16	9.46	0.074	336	447	20.21
4	4/ 2/80	17	58	0.19	9.13	0.030	295	424	18.59
4	4/ 3/80	17	58	1.28	8.76	0.115	327	479	19.12
4	4/ 4/80	17	45	0.13	11.29	0.040	286	479	21.58
4	4/ 5/80	17	58	0.04	10.88	0.036	314	459	24.97
4	4/ 6/80	17	44	0.07	11.43	0.030	315	494	19.85
4	4/ 7/80	17	30	0.05	11.15	0.025	288	437	18.43
4	4/ 8/80	19	15	0.05	10.31	0.028	255	426	16.74
4	4/ 9/80	19	7	0.10	10.48	0.024	267	398	19.28
4	4/10/80	17	36	0.04	10.65	0.020	269	386	18.24
4	4/11/80	17	35	0.07	10.38	0.046	308	396	19.37
4	4/12/80	17	11	0.11	10.61	0.025	268	419	18.20
4	4/13/80	17	9	0.05	11.15	0.025	287	505	25.79
4	4/14/80	17	30	0.02	10.48	0.025	261	406	18.15
4	4/15/80	18	13	0.03	11.66	0.029	328	422	21.33
4	4/16/80	17	30	0.02	11.49	0.029	308	416	19.90
4	4/17/80	18	21	0.02	10.65	0.030	325	391	20.49
4	4/18/80	17	27	0.02	10.66	0.032	287	394	19.66
4	4/19/80	17	10	0.09	10.94	0.031	299	421	20.41
4	4/20/80	17	35	0.02	10.48	0.034	315	407	20.65
4	4/21/80	17	28	0.15	11.82	0.032	370	461	23.56
4	4/22/80	17	30	0.03	9.74	0.027	336	400	20.14
4	4/23/80	17	27	0.04	11.65	0.026	349	453	27.88
4	4/24/80	18	23	0.07	12.42	0.030	346	444	25.14
4	4/25/80	17	37	0.07	11.29	0.024	311	399	24.00
4	4/26/80	17	18	0.05	9.74	0.058	307	360	19.05
4	4/27/80	17	22	0.05	9.50	0.028	285	370	22.69
4	4/28/80	17	38	0.05	10.28	0.032	319	375	23.58
4	4/29/80	18	28	0.03	11.52	0.022	353	435	26.08
4	4/30/80	17	28	0.03	11.21	0.025	320	422	22.43
4	5/ 1/80	18	12	0.05	9.26	0.033	299	368	23.63
4	5/ 2/80	18	45	0.07	8.92	0.021	273	324	29.93
4	5/ 3/80	16	54	0.12	9.04	0.020	270	318	32.23
4	5/ 4/80	18	2	0.03	9.04	0.019	266	315	23.45
4	5/ 5/80	17	2	0.02	8.80	0.019	260	355	30.10
4	5/ 6/80	18	13	0.01	8.97	0.024	271	344	25.03
4	5/ 7/80	18	6	0.03	9.45	0.009	236	324	20.86
4	5/ 8/80	17	30	0.03	9.77	0.009	252	344	20.10
4	5/ 9/80	17	36	0.03	9.10	0.016	246	341	19.55
4	5/10/80	18	5	0.05	8.90	0.017	251	350	19.55
4	5/11/80	17	36	0.03	9.21	0.017	262	366	21.41
4	5/12/80	17	37	0.03	9.28	0.016	261	350	18.72
4	5/13/80	18	11	0.04	9.24	0.019	286	352	19.39
4	5/14/80	17	40	0.06	9.24	0.013	279	360	18.82
4	5/15/80	18	11	0.04	8.25	0.010	293	336	20.18
4	5/16/80	17	22	0.05	7.91	0.018	290	323	18.62
4	5/17/80	17	32	0.05	8.42	0.020	344	350	19.20
4	5/18/80	17	28	0.08	8.10	0.020	333	355	19.08
4	5/19/80	17	44	0.08	8.12	0.019	318	368	18.53
4	5/20/80	18	1	0.15	8.49	0.024	326	347	18.68
4	5/21/80	17	25	0.18	8.36	0.023	275	342	19.76
4	5/22/80	17	0	0.27	8.06	0.026	284	373	18.27
4	5/23/80	17	15	0.11	8.06	0.021	274	374	17.84
4	5/24/80	18	15	0.12	8.31	0.026	307	354	19.12
4	5/25/80	17	48	0.16	7.81	0.028	287	381	19.84
4	5/26/80	18	19	0.16	7.76	0.033	297	373	19.09
4	5/27/80	17	27	0.14	7.90	0.027	311	369	19.08
4	5/27/80	22	23	0.14	7.81	0.028	320	341	22.60
4	5/27/80	23	38	0.12	7.64	0.026	304	353	19.12
4	5/28/80	4	30	0.66	8.62	0.060	296	1118	8.85
4	5/28/80	9	28	0.57	8.57	0.085	388	1420	11.51
4	5/28/80	12	19	0.49	10.84	0.080	517	652	13.82
4	5/28/80	17	3	0.41	12.86	0.049	564	677	17.36
4	5/28/80	21	55	0.36	12.51	0.037	195	543	16.71
4	5/29/80	8	7	0.32	7.71	0.029	187	815	15.72
4	5/29/80	9	21	0.42	6.32	0.057	196	833	15.72
4	5/29/80	10	25	0.32	9.97	0.059	272	908	16.21
4	5/29/80	11	44	0.62	1.66	0.115	175	27610	9.70
4	5/29/80	13	0	0.38	1.68	0.080	544	18520	3.19
4	5/29/80	13	50	0.35	1.49	0.084	468	10970	2.04
4	5/29/80	14	57	0.34	2.54	0.088	170	7560	2.62
4	5/29/80	16	7	0.36	2.35	0.145	109	5832	8.13
4	5/29/80	18	29	0.33	5.59	0.111	279	3545	11.43
4	5/30/80	0	15	0.32	14.62	0.100	528	826	19.96
4	5/30/80	7	32	0.35	6.06	0.066	231	6768	7.24
4	5/30/80	9	52	0.38	5.81	0.087	226	3600	14.55
4	5/30/80	11	52	0.39	8.29	0.112	309	1862	17.31
4	5/30/80	17	15	0.30	15.03	0.082	443	515	21.49
4	5/30/80	22	1	0.14	15.44	0.066	481	544	19.16
4	5/31/80	17	5	0.07	15.76	0.051	517	524	20.92
4	6/ 1/80	8	31	0.07	15.18	0.044	508	490	18.34
4	6/ 1/80	17	45	0.08	15.92	0.035	62	430	19.27
4	6/ 2/80	17	4	0.08	17.21	0.028	377	788	17.57
4	6/ 2/80	17	50	0.17	9.63	0.028	360	3552	11.13
4	6/ 2/80	18	52	0.25	6.02	0.042	233	3353	8.42
4	6/ 2/80	20	11	0.26	2.30	0.032	191	7517	4.78
4	6/ 2/80	21	6	0.26	2.24	0.070	86	11620	3.83
4	6/ 2/80	21	49	0.23	2.28	0.070	115	10990	2.15
4	6/ 2/80	22	43	0.19	1.99	0.069	161	5601	1.95
4	6/ 3/80	1	20	0.21	2.49	0.125	182	2095	2.48
4	6/ 3/80	5	5	0.19	6.40	0.089	284	1448	8.00
4	6/ 3/80	9	30	0.14	8.77	0.065	328	1028	9.60

TABLE F2-12. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	6/ 3/80	18	20	0.09	14.40	0.041	374	661	13.84
4	6/ 4/80	17	5	0.07	16.70	0.030	463	589	15.81
4	6/ 5/80	17	37	0.05	17.98	0.032	426	520	17.02
4	6/ 6/80	14	55	0.05	17.87	0.027	419	482	17.21
4	6/ 6/80	19	58	0.45	1.25	0.060	216	933	0.69
4	6/ 7/80	7	11	0.07	14.03	0.061	391	1021	13.84
4	6/ 7/80	9	11	0.13	11.29	0.048	327	1204	12.88
4	6/ 7/80	12	6	0.15	4.19	0.034	189	4161	6.43
4	6/ 7/80	15	27	0.10	3.11	0.083	202	2867	6.36
4	6/ 7/80	22	22	0.13	9.36	0.081	302	808	11.85
4	6/ 8/80	7	42	0.07	17.32	0.032	368	571	16.24
4	6/ 8/80	17	14	0.09	15.60	0.038	342	498	15.41
4	6/ 9/80	17	0	0.09	17.84	0.038	380	514	17.13
4	6/10/80	17	0	0.06	17.71	0.032	404	458	17.59
4	6/11/80	17	20	0.06	17.61	0.037	278	436	16.88
4	6/12/80	17	5	0.05	17.19	0.036	331	412	16.44
4	6/13/80	17	2	0.04	15.83	0.031	347	420	17.02
4	6/13/80	23	25	0.10	9.57	0.033	96	524	12.30
4	6/14/80	1	10	0.11	11.98	0.041	199	820	15.17
4	6/14/80	4	34	0.39	5.50	0.048	447	3550	9.46
4	6/14/80	8	14	0.23	4.74	0.049	392	1826	8.22
4	6/14/80	17	37	0.14	13.73	0.073	450	472	17.56
4	6/15/80	4	28	0.09	12.91	0.050	575	1041	16.13
4	6/15/80	6	35	0.26	3.49	0.049	315	4738	6.18
4	6/15/80	8	53	0.33	2.13	0.079	202	10730	5.57
4	6/15/80	12	25	0.21	4.41	0.072	387	3306	7.68
4	6/15/80	17	23	0.15	9.21	0.070	474	1152	12.15
4	6/16/80	17	14	0.06	16.56	0.053	329	541	16.59
4	6/17/80	17	23	0.05	16.44	0.041	513	687	19.38
4	6/18/80	18	17	0.04	16.10	0.038	582	600	18.00
4	6/20/80	17	48	0.04	15.41	0.038	214	446	18.00
4	6/21/80	17	13	0.04	15.27	0.040	223	503	18.00
4	6/22/80	17	40	0.04	17.05	0.024	175	524	19.60
4	6/23/80	17	36	0.04	19.03	0.024	170	431	21.41
4	6/24/80	17	20	0.03	14.54	0.021	84	421	17.37
4	6/25/80	17	43	0.05	13.67	0.023	147	392	16.75
4	6/26/80	18	24	0.04	15.34	0.032	199	445	19.19
4	6/27/80	17	22	0.04	15.34	0.023	189	451	19.01
4	6/28/80	17	39	0.05	15.32	0.033	224	462	19.06
4	6/29/80	18	26	0.04	13.21	0.028	153	359	16.89
4	6/30/80	17	17	0.04	12.58	0.026	199	314	16.74
4	7/ 1/80	18	10	0.06	14.11	0.030	169	395	18.63
4	7/ 2/80	17	40	0.03	15.40	0.027	229	370	20.64
4	7/ 3/80	18	10	0.05	13.95	0.036	309	375	19.87
4	7/ 4/80	17	9	0.04	13.35	0.032	224	352	20.43
4	7/ 5/80	19	25	0.04	11.37	0.028	188	345	17.05
4	7/ 6/80	17	27	0.04	11.08	0.027	202	321	17.93
4	7/ 7/80	17	46	0.05	13.87	0.040	271	413	20.61
4	7/ 8/80	17	31	0.08	14.45	0.041	323	469	23.00
4	7/ 9/80	17	21	0.06	13.58	0.037	284	395	21.13
4	7/10/80	17	45	0.09	11.89	0.051	282	387	20.51
4	7/11/80	17	4	0.07	9.49	0.045	239	392	20.22

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	7/12/80	17	22	0.09	11.06	0.040	202	330	18.43
4	7/13/80	20	0	0.06	12.13	0.038	258	385	20.04
4	7/14/80	18	56	0.07	11.89	0.034	281	387	20.66
4	7/15/80	18	35	0.06	9.11	0.044	225	337	17.68
4	7/16/80	19	27	0.10	15.03	0.042	220	392	14.92
4	7/17/80	17	47	0.07	5.09	0.036	176	372	17.95
4	7/18/80	16	21	0.08		0.036	195	296	19.31
4	7/19/80	17	1	0.05	4.30	0.036	156	297	18.08
4	7/20/80	19	6	0.06	6.59	0.039	195	402	18.30
4	7/21/80	17	36	0.05	4.33	0.029	265	340	18.83
4	7/22/80	20	34	0.04	4.35	0.019	164	357	18.70
4	7/23/80	17	50	0.06	7.33	0.015	341	428	11.23
4	7/24/80	17	0	0.02	6.64	0.013	332	416	12.51
4	7/25/80	17	30	0.05	6.17	0.007	333	430	13.48
4	7/26/80	17	45	0.04	5.73	0.011	354	419	13.89
4	7/27/80	18	4	0.03	5.97	0.008	328	424	14.14
4	7/28/80	18	0	0.04	5.93	0.009	301	401	14.35
4	7/29/80	17	25	0.03	5.33	0.007	368	389	10.87
4	7/30/80	17	47	0.06	4.45	0.013	322	396	7.35
4	7/31/80	18	10	0.03	3.79	0.008	343	360	4.17
4	8/ 2/80	18	35	0.04	2.62	0.005	247	356	12.09
4	8/ 4/80	17	23	0.07	2.13	0.008	287	360	14.37
4	8/ 6/80	3	5	0.20	1.03	0.061	124	4929	15.22
4	8/ 6/80	3	57	0.18	1.35	0.035	91	6579	14.20
4	8/ 6/80	5	30	0.23	1.56	0.061	139	2352	18.43
4	8/ 6/80	8	7	0.46	1.91	0.175	188	2477	21.18
4	8/ 6/80	11	7	0.41	2.57	0.106	219	932	16.97
4	8/ 6/80	14	21	0.30	3.27	0.097	207	588	16.26
4	8/ 6/80	17	25	0.27	3.90	0.106	261	352	8.34
4	8/ 7/80	9	11	0.19	4.77	0.062	367	403	11.10
4	8/ 7/80	17	14	0.17	4.62	0.067	317	348	12.65
4	8/ 8/80	17	15	0.12	4.19	0.084	363	368	14.22
4	8/ 9/80	17	15	0.12	3.94	0.118	317	386	17.34
4	8/10/80	17	29	0.16	3.18	0.086	327	456	21.46
4	8/11/80	5	39	0.27	1.91	0.091	285	1494	12.14
4	8/11/80	7	46	0.11	1.42	0.051	217	6758	3.50
4	8/11/80	9	47	0.74	1.33	1.715	295	2697	10.00
4	8/11/80	11	41	0.51	1.43	0.381	152	3598	0.61
4	8/11/80	13	55	0.79	2.03	0.490	198	788	0.31
4	8/11/80	17	34	0.74	3.76	0.309	243	542	0.45
4	8/11/80	22	15	0.57	5.47	0.167	306	455	12.57
4	8/12/80	18	30	0.16	5.78	0.045	331	394	13.55
4	8/13/80	17	30	0.08	5.42	0.031	333	378	13.98
4	8/14/80	18	12	0.06	5.17	0.025	353	415	14.05
4	8/15/80	18	7	0.03	4.81	0.091	330	394	14.40
4	8/16/80	12	51	0.07	3.21	0.048	269	1187	11.11
4	8/16/80	13	56	0.08	2.04	0.076	177	1539	7.50
4	8/16/80	14	59	0.19	1.22	0.426	142	1340	4.21
4	8/16/80	18	3	0.73	2.18	0.367	223	1176	12.03
4	8/16/80	23	59	0.72	4.86	0.109	341	565	14.43
4	8/17/80	8	43	0.29	6.19	0.064	338	445	15.19
4	8/17/80	17	35	0.12	6.57	0.143	350	391	14.06

TABLE F2-12. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
4	8/18/80	18	34	0.07	6.23	0.038	263	356	14.07
4	8/19/80	18	4	0.16	4.40	0.100	191	360	11.10
4	8/20/80	17	14	0.08	6.27	0.042	230	406	13.90
4	8/21/80	17	50	0.07	5.80	0.034	249	403	14.26
4	8/22/80	18	28	0.06	5.35	0.040	259	422	14.28
4	8/23/80	17	11	0.06	5.09	0.037	250	408	14.82
4	8/24/80	17	36	0.06	4.77	0.029	228	376	15.08
4	8/25/80	17	55	0.05	4.36	0.027	266	367	16.61
4	8/26/80	17	32	0.05	3.89	0.038	277	370	15.72
4	8/27/80	17	27	0.08	3.29	0.031	261	401	14.69
4	8/28/80	17	32	0.07	2.94	0.030	244	494	15.63
4	8/29/80	16	51	0.17	2.98	0.025	251	384	18.27
4	8/30/80	17	21	0.06	2.66	0.030	242	514	16.29
4	8/31/80	17	12	0.06	2.60	0.033	239	353	17.67
4	9/ 2/80	17	28	0.05	2.77	0.020	237	376	20.81
4	9/ 4/80	7	3	0.10	3.37	0.043	271	514	17.30
4	9/ 4/80	9	30	0.21	2.46	0.071	147	1367	9.66
4	9/ 4/80	11	29	0.25	2.79	0.111	160	1305	11.14
4	9/ 4/80	13	39	0.77	2.68	0.277	239	739	20.89
4	9/ 4/80	17	32	1.03	2.17	0.522	274	1134	19.08
4	9/ 4/80	22	29	1.08	2.75	0.401	265	654	21.17
4	9/ 5/80	7	9	0.75	2.90	0.213	261	479	16.46
4	9/ 6/80	14	50	0.20	1.85	0.117	125	2693	6.79
4	9/ 6/80	17	54	0.20	3.91	0.067	311	[illegible]9	15.92
4	9/ 8/80	17	52	0.11	2.65	0.027	281	415	13.83
4	9/10/80	18	12	0.22	2.69	0.053	285	425	17.67
4	9/12/80	16	32	0.12	3.88	0.034	304	424	17.00
4	9/14/80	14	58	0.24	0.93	0.043	355	431	18.50
4	9/16/80	17	5	0.15	3.63	0.027	407	2080	16.64
4	9/18/80	17	30	0.14	4.22	0.158	273	398	20.53
4	9/20/80	17	28	0.09	4.41	0.101	252	431	17.55
4	9/22/80	17	34	0.13	3.71	0.116	258	416	21.63
4	9/24/80	19	11	0.09	3.94	0.247	204	407	18.06
4	9/26/80	17	29	0.10	4.04	0.153	235	390	20.72
4	9/28/80	17	4	0.10	4.26	0.113	256	370	17.70
4	9/30/80	17	46	0.11	3.95	0.232	244	422	20.38
4	10/ 2/80	17	45	0.14	3.74	0.124	226	400	16.82
4	10/ 4/80	17	6	0.11	3.95	0.084	178	406	18.34
4	10/ 6/80	18	40	0.10	4.32	0.101	189	404	15.60
4	10/ 8/80	17	40	0.07	4.19	0.090	202	409	18.52
4	10/10/80	16	50	0.10	3.76	0.120	247	461	17.79
4	10/12/80	17	24	0.07	4.97	0.132	244	446	19.38
4	10/14/80	17	59	0.08	2.22	0.056	137	334	19.18
4	10/16/80	17	23	0.07	4.78	0.024	210	349	17.74
4	10/18/80	17	40	0.23	2.32	0.018	440	547	16.98
4	10/20/80	17	18	0.12	4.79	0.001	442	548	18.80
4	10/22/80	20	0	0.05	1.93	0.004	509	623	18.01
4	10/24/80	17	35		5.09	0.530	597	754	
4	10/26/80	17	23	0.18	2.74	0.014	527	584	17.49
4	10/28/80	16	52	0.11	4.78	0.021	477	586	16.80
4	10/30/80	17	18	0.06	4.63	0.002	541	590	16.20
4	11/ 1/80	17	4	0.02	4.98	0.021	613	647	17.96
4	11/ 3/80	16	53	0.10	4.79	0.002	497	734	16.46
4	11/ 5/80	19	7	0.06	4.67	0.012	582	680	17.58
4	11/ 7/80	17	7	0.07	4.73	0.050	550	696	17.14
4	11/ 9/80	16	50	0.07	4.54	0.008	531	691	19.54
4	11/11/80	17	50	0.32	4.62	0.020	525	705	18.08
4	11/13/80	17	0	0.07	4.69	0.006	467	644	19.01
4	11/15/80	17	31	0.07	4.48	0.006	534	692	20.22
4	11/17/80	17	11	0.09	4.94	0.008	558	589	20.15
4	11/19/80	17	35	0.07	4.31	0.002	466	592	17.05
4	11/21/80	17	58	0.12	4.24	0.002	499	670	17.91
4	11/23/80	17	11	0.05	4.90	0.068	446	675	17.35
4	11/25/80	17	17	0.04	4.99	0.018	506	595	20.64
4	11/27/80	17	29	0.04	4.63	0.010	486	604	17.14
4	11/29/80	17	47	0.05	4.88	0.008	461	626	20.57
4	12/ 1/80	18	0	0.08	4.94	0.024	245	375	19.28
4	12/ 3/80	17	4	0.07	4.87	0.009	236	405	21.36
4	12/ 5/80	17	36	0.10	5.97	0.008	240	410	20.00
4	12/ 7/80	17	27	0.23	3.92	0.014	189	368	17.91
4	12/ 9/80	17	29	0.26	5.42	0.032	250	444	24.32
4	12/11/80	17	34	0.19	5.95	0.033	246	459	24.96
4	12/13/80	17	32	0.12	5.50	0.080	236	409	18.99
4	12/15/80	17	14	0.14	5.54	0.003	244	429	24.56
4	12/17/80	17	41	0.11	5.12	0.013	193	334	20.68
4	12/19/80	17	31	0.31	5.57	0.027	171	374	24.06
4	12/21/80	17	35	0.12	6.93	0.005	212	393	26.00
4	12/23/80	17	17	0.10	6.22	0.0	182	345	19.58
4	12/25/80	17	17	0.20	6.07	0.005	210	388	17.80
4	12/27/80	17	8	0.17	6.02	0.019	212	372	19.58
4	12/29/80	17	25	0.16	5.82	0.0	179	366	17.92
4	12/31/80	17	36	0.20	5.57	0.018	158	404	20.73

TABLE F2-13. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1980 SITE 5

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				ppm					
5	1/ 4/80	13	0	0.0	12.33	0.018	314	1246	21.00
5	1/16/80	10	32	1.27	4.50	0.483	188	1257	22.15
5	1/16/80	14	37	1.08	4.31	0.415	141	2073	16.54
5	1/16/80	17	42	1.23	5.41	0.619	174	1491	17.11
5	1/16/80	22	43	0.71	5.67	0.579	153	1493	16.46
5	1/17/80	9	10	0.62	10.00	0.421	287	1205	18.99
5	1/17/80	17	32	0.14	11.43	0.175	327	1361	20.19
5	1/18/80	14	0	0.05	12.29	0.044	322	607	18.70
5	1/25/80	13	20	0.14	11.80	0.124	367	476	16.96
5	2/13/80	13	5	0.15	5.93	0.009	259	375	21.95
5	2/19/80	16	0	0.16	13.68	0.024	288	434	19.49
5	2/21/80	11	55	1.88	2.48	0.314	144	1333	14.61
5	2/21/80	13	49	1.84	2.79	0.381	116	1906	12.30
5	2/21/80	15	6	1.50	2.23	0.358	102	2350	8.40
5	2/21/80	19	11	1.63	2.55	0.587	82	1042	11.66
5	2/21/80	23	4	1.75	2.61	0.774	106	866	11.39
5	2/22/80	5	11	1.93	3.03	0.768	139	783	10.23
5	2/22/80	9	33	2.02	3.56	0.758	147	1280	12.04
5	2/22/80	13	36	1.70	2.24	0.477	176	1663	12.67
5	2/22/80	18	2	1.57	1.50	0.531	144	2027	13.10
5	2/22/80	23	39	1.94	2.81	0.955	177	1398	12.36
5	2/23/80	8	42	1.97	4.43	0.838	186	635	16.07
5	2/23/80	17	25	1.58	5.48	0.403	242	1862	19.59
5	2/24/80	8	11	1.24	5.70	0.441	299	361	17.78
5	3/ 3/80	14	35	0.31	9.73	0.098	363	418	23.12
5	3/ 8/80	17	53	0.74	3.67	0.152	138	1319	10.59
5	3/ 9/80	23	35	2.05	8.51	0.406	38	306	15.00
5	3/10/80	9	32	0.92	1.26	0.300	109	367	6.96
5	3/14/80	17	30	1.70	2.70	0.187	148	2198	12.34
5	3/14/80	22	53	1.20	6.01	0.128	148	611	12.48
5	3/15/80	4	40	1.30	1.66	0.402	90	285	11.97
5	3/15/80	11	23	1.80	1.88	0.393	162	1966	7.05
5	3/15/80	14	20	4.85	1.24	0.181	145	5591	4.88
5	3/15/80	17	54	1.80	1.20	0.309	138	5361	5.82
5	3/15/80	21	55	1.75	1.40	0.390	169	3575	6.36
5	3/16/80	2	15	1.90	2.31	0.381	111	2471	9.84
5	3/16/80	7	11	1.60	2.40	0.369	219	1859	10.08
5	3/16/80	11	40	1.05	2.59	0.360	221	1721	10.68
5	3/16/80	15	16	1.20	2.54	0.374	192	2396	10.26
5	3/16/80	22	43	1.00	4.88	0.289	94	1356	14.10
5	3/17/80	8	48	1.05	6.34	0.208	246	530	13.68
5	3/17/80	17	57	1.15	5.94	0.259	270	1130	15.09
5	3/18/80	18	0	0.90	5.68	0.194	281	1815	14.43
5	3/19/80	14	45	0.50	7.62	0.120	326	559	14.04
5	3/19/80	17	54	0.65	5.36	0.150	294	692	10.20
5	3/25/80	13	15	0.55	6.02	0.263	314	512	14.25
5	4/ 2/80	14	25	0.20	11.80	0.065	313	539	23.42
5	4/ 3/80	18	14		10.27	0.311	325	1879	28.95
5	4/ 4/80	17	59	0.13	13.18	0.032	266	612	22.90
5	4/ 8/80	14	0	0.32	13.93	0.034	298	481	23.20
5	4/16/80	11	33	0.17	12.98	0.031	291	442	23.73
5	4/23/80	11	25	0.10	13.00	0.022	279	460	22.68
5	4/30/80	12	31	0.04	12.64	0.024	291	401	22.43
5	5/ 7/80	13	30	0.09	12.54	0.015	359	414	23.20
5	5/ 8/80	7	57	0.07	1.12	0.020	351	628	19.33
5	5/15/80	9	10	0.04	11.58	0.017	220	404	24.28
5	5/19/80	14	50	0.07	10.47	0.043	320	430	21.95
5	5/27/80	22	8	0.58	4.44	0.060	146	28700	5.41
5	5/27/80	23	29	0.44	4.37	0.086	131	13120	3.88
5	5/28/80	4	45	0.48	10.25	0.085	350	1713	14.41
5	5/28/80	9	15	0.41	10.05	0.061	368	1189	23.70
5	5/28/80	12	5	0.35	9.28	0.053	353	1069	23.70
5	5/28/80	22	11	0.38	12.24	0.042	283	1001	20.73
5	5/29/80	7	51	0.38	4.48	0.041	197	5159	6.68
5	5/29/80	9	10	0.66	4.45	0.123	239	42480	8.09
5	5/29/80	10	10	0.35	1.59	0.112	127	24090	2.47
5	5/29/80	11	19	0.32	1.41	0.122	100	14680	1.97
5	5/29/80	12	43	0.58	1.81	0.141	53	6642	10.39
5	5/29/80	14	5	0.31	4.53	0.230	80	4268	6.19
5	5/29/80	15	15	0.29	5.73	0.224	125	4023	5.87
5	5/29/80	16	28	0.27	9.51	0.191	142	2404	8.72
5	5/29/80	18	19	0.29	13.59	0.152	272	1969	12.91
5	5/30/80	0	32	0.16	18.19	0.077	351	939	19.38
5	5/30/80	7	52	0.29	9.39	0.143	245	2407	17.34
5	5/30/80	9	37	0.27	11.49	0.153	266	1374	15.62
5	5/30/80	11	35	0.0	13.77	0.148	300	901	19.39
5	5/30/80	17	33	0.11	17.56	0.080	276	872	20.99
5	5/30/80	22	19	0.11	17.94	0.076	333	865	23.24
5	5/31/80	17	30	0.14	18.01	0.049	460	642	23.49
5	6/ 1/80	8	44	0.06	17.85	0.032	450	569	18.77
5	6/ 2/80	17	28	0.14	11.78	0.025	227	1128	12.93
5	6/ 2/80	18	34	0.25	2.72	0.077	98	22920	3.64
5	6/ 2/80	19	31	0.19	2.01	0.063	35	9943	2.19
5	6/ 2/80	20	41	0.17	1.66	0.085	67	6216	1.93
5	6/ 2/80	21	27	0.21	1.86	0.114	103	4789	2.10
5	6/ 2/80	22	58	0.19	1.99	0.148	90	2777	2.73
5	6/ 3/80	1	2	0.20	4.27	0.181	187	2205	4.68
5	6/ 3/80	5	23	0.18	14.98	0.065	344	1269	15.35
5	6/ 3/80	9	18	0.14	15.65	0.052	322	1202	15.96
5	6/ 3/80	18	34	0.11	17.13	0.052	346	749	17.18
5	6/ 6/80	19	49	0.02	16.69	0.085	298	1372	17.10
5	6/ 7/80	6	52	0.19	11.91	0.069	314	4462	14.98
5	6/ 7/80	9	29	0.19	5.58	0.036	182	9203	6.04
5	6/ 7/80	12	24	0.13	8.59	0.147	369	2984	10.57
5	6/ 7/80	15	39	0.13	13.71	0.114	348	1318	15.14
5	6/ 7/80	22	40	0.08	19.00	0.045	365	735	18.33
5	6/13/80	23	10	0.21	9.44	0.068	279	5289	14.88
5	6/14/80	0	55	0.23	5.85	0.044	186	8114	8.36
5	6/14/80	4	21	0.19	10.79	0.091	229	3080	9.65
5	6/14/80	8	22	0.27	7.46	0.088	312	1133	14.00
5	6/14/80	17	50	0.09	11.80	0.048	351	502	21.37
5	6/15/80	4	42	0.37	6.97	0.186	331	8775	15.05
5	6/15/80	6	50	0.18	2.12	0.064	166	8005	3.99
5	6/15/80	9	9	0.19	6.85	0.071	227	3826	7.79

TABLE F2-13. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				----------	----------	PPM	----------	----------	----------
5	6/15/80	12	40	0.24	12.94	0.096	315	1980	13.44
5	6/15/80	17	38	0.13	16.07	0.067	362	942	17.64
5	8/ 6/80	2	50	0.17	1.70	0.062	148	6643	3.39
5	8/ 6/80	3	41	0.18	1.99	0.073	157	3217	5.71
5	8/ 6/80	5	15	1.30	2.49	0.717	243	4282	17.81
5	8/ 6/80	7	51	0.42	1.96	0.076	187	1475	7.17
5	8/ 6/80	11	24	0.45	3.53	0.086	378	723	14.18
5	8/ 6/80	14	45	0.40	4.17	0.087	442	462	26.85
5	8/ 6/80	17	40	0.41	4.75	0.095	467	446	21.15
5	8/ 7/80	9	23	0.29	5.74	0.046	408	471	21.80
5	8/11/80	5	53	0.24	1.43	0.205	212	3772	5.58
5	8/11/80	8	1	0.42	1.46	0.420	158	4954	5.96
5	8/11/80	10	0	0.83	2.34	0.641	220	2638	10.97
5	8/11/80	11	55	0.83	3.68	0.637	291	1966	12.96
5	8/11/80	14	13	1.06	5.77	0.354	394	873	15.27
5	8/11/80	17	47	0.48	7.72	0.070	385	582	18.14
5	8/11/80	22	29	0.32	7.01	0.042	405	548	20.89
5	8/18/80	15	15	0.08	8.12	0.028	401	393	18.46
5	9/30/80	14	10	0.04	5.97	0.130	300	503	22.21

TABLE F2-14. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1980 SITE 6

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				ppm					
6	1/ 4/80	12	55	0.02	7.38	0.010	242	324	13.09
6	1/16/80	10	38	0.94	3.40	0.277	114	1750	19.11
6	1/16/80	14	41		4.80	0.530	144	1030	19.11
6	1/16/80	17	49	0.48	5.06	0.279	119	2037	13.33
6	1/16/80	22	50	0.11	5.23	0.421	162	1380	18.70
6	1/17/80	9	15	0.61	8.23	0.220	233	496	17.60
6	1/17/80	17	40	0.26	8.06	0.107	233	383	16.93
6	1/18/80	13	45	0.02	6.10	0.025	261	301	15.90
6	1/25/80	13	20	0.07	7.32	0.051	260	326	14.96
6	2/ 4/80	12	35	0.15	1.97	0.038	244	303	23.25
6	2/13/80	13	0	0.15	3.01	0.011	233	266	14.41
6	2/19/80	15	51	0.19	2.17	0.047	230	313	16.47
6	2/21/80	11	50	2.07	1.86	0.410	140	776	7.75
6	2/21/80	13	43	1.81	0.45	0.428	141	1164	4.28
6	2/21/80	15	0	1.89	1.78	0.529	144	998	10.37
6	2/21/80	19	15	1.95	2.15	0.582	151	625	12.65
6	2/21/80	23	8	2.36	1.49	0.647	151	570	12.82
6	2/22/80	5	6	2.18	2.03	0.609	198	399	21.43
6	2/22/80	9	28	1.93	2.63	0.492	174	350	11.69
6	2/22/80	13	32	1.77	1.69	0.517	140	1032	14.54
6	2/22/80	17	58	1.85	1.70	0.603	164	747	13.34
6	2/22/80	23	34	2.05	1.65	0.578	203	424	20.44
6	2/23/80	8	46	1.41	5.98	0.217	296	379	15.82
6	2/23/80	17	17	1.38	2.67	0.280	179	535	11.79
6	2/24/80	8	6	0.97	1.44	0.129	319	333	16.02
6	3/ 3/80	14	42	0.32	5.61	0.052	290	303	19.52
6	3/ 9/80	16	37	0.58	1.38	0.037	23	694	2.13
6	3/ 9/80	17	47	0.85	1.34	0.183	31	608	5.55
6	3/ 9/80	23	28	1.17	1.14	2.910	55	216	17.01
6	3/10/80	9	38	1.17	1.20	2.902	89	462	17.16
6	3/14/80	17	35	1.20	1.64	2.101	146	1091	11.97
6	3/14/80	22	57	1.21	1.62	2.004	111	431	10.98
6	3/15/80	4	36	1.32	1.77	1.649	96	504	15.48
6	3/15/80	11	19	1.12	1.36	2.174	44	3377	15.48
6	3/15/80	14	14	0.96	0.53	0.536	3	6293	6.33
6	3/15/80	17	49	1.30	1.00	0.644	48	5302	8.40
6	3/15/80	21	48	1.24	2.14	0.351	138	1586	21.72
6	3/16/80	2	10	1.21	2.21	0.329	74	1111	19.89
6	3/16/80	7	7	1.15	2.39	0.343	99	767	17.28
6	3/16/80	11	44	1.22	2.24	0.314	61	1934	18.31
6	3/16/80	15	10	1.15	2.64	0.268	67	1663	12.18
6	3/16/80	22	40	1.32	4.04	0.239	107	613	21.39
6	3/17/80	8	44	0.85	6.11	0.135	138	431	19.29
6	3/17/80	17	53	1.28	3.10	0.250	71	854	19.89
6	3/18/80	17	56	0.98	3.10	0.226	51	1391	12.54
6	3/19/80	14	40	3.75	3.45	0.156	88	1774	13.32
6	3/19/80	17	59	4.80	3.75	0.205	87	1048	12.81
6	3/25/80	13	5	2.80	5.25	0.115	140	524	13.66
6	4/ 2/80	14	20	0.25	7.64	0.028	223	395	18.97
6	4/ 3/80	18	9	1.04	8.88	0.320	257	882	22.89
6	4/ 4/80	17	54	0.15	9.12	0.021	209	418	18.19
6	4/ 8/80	14	5	0.10	8.80	0.022	264	391	16.02
6	4/16/80	11	37	0.06	8.44	0.023	271	415	20.52
6	4/23/80	11	30	0.02	8.42	0.024	274	374	15.97
6	4/30/80	12	38	0.01	8.15	0.022	257	330	14.77
6	5/ 7/80	13	25	0.09	8.45	0.039	300	337	23.26
6	5/15/80	9	15	0.05	8.30	0.016	171	374	24.01
6	5/19/80	10	16	0.32	3.50	0.047	94	4035	4.93
6	5/19/80	11	34	0.48	11.09	0.058	249	1964	10.09
6	5/19/80	14	36	0.11	7.26	0.036	310	386	15.75
6	5/19/80	17	52	0.05	16.01	0.035	250	478	22.89
6	5/27/80	22	13	0.22	5.63	0.026	335	455	12.76
6	5/27/80	23	25	0.63	6.76	0.016	372	394	14.88
6	5/29/80	7	56	0.59	5.01	0.057	185	26180	5.73
6	5/29/80	9	4	0.55	3.86	0.037	165	6672	6.04
6	5/29/80	12	50	0.41	10.32	0.055	174	1553	10.34
6	5/29/80	14	1	0.34	10.92	0.021	206	1134	10.65
6	5/29/80	16	23	0.20	11.94	0.026	273	539	13.66
6	5/30/80	7	47	0.17	10.00	0.042	269	840	13.84
6	5/30/80	11	40	0.12	10.31	0.026	272	546	14.52
6	5/30/80	17	20	0.11	10.54	0.021	302	539	13.73
6	5/31/80	17	22	0.08	10.54	0.022	336	520	13.80
6	6/ 1/80	8	40	0.12	9.92	0.024	354	699	15.73
6	6/ 2/80	17	33	0.27	1.88	0.061	89	16620	1.56
6	6/ 2/80	18	40	0.27	2.50	0.058	112	5767	2.01
6	6/ 2/80	20	1	0.31	6.18	0.135	184	2054	6.57
6	6/ 2/80	20	55	0.57	9.22	0.617	298	1166	15.33
6	6/ 2/80	21	40	0.37	12.44	0.583	395	1194	18.97
6	6/ 3/80	1	8	0.21	12.31	0.076	284	532	15.35
6	6/ 3/80	5	19	0.13	13.93	0.037	279	391	15.76
6	6/ 3/80	18	29	0.13	13.19	0.039	253	408	14.96
6	6/ 6/80	19	45	0.02	0.86	0.020	134	6463	6.72
6	6/ 7/80	6	59	0.21	4.08	0.048	113	1971	5.40
6	6/ 7/80	9	23	0.20	9.60	0.068	211	497	13.03
6	6/ 7/80	12	17	0.18	12.32	0.071	258	424	16.14
6	6/ 7/80	15	50	0.10	12.98	0.038	284	418	15.09
6	6/ 8/80	7	53	0.09	12.99	0.037	273	455	18.37
6	6/13/80	23	15	0.55	3.77	0.044	124	3870	5.39
6	6/14/80	1	1	0.42	5.47	0.130	187	1463	7.85
6	6/14/80	4	25	0.21	11.12	0.084	294	579	14.86
6	6/14/80	17	46	0.13	11.76	0.039	218	452	14.86
6	6/15/80	4	49	0.53	2.67	0.349	106	5315	7.52
6	6/15/80	6	45	0.51	11.23	0.336	313	1255	17.34
6	6/15/80	9	5	0.33	13.60	0.219	341	813	20.05
6	6/15/80	12	36	0.21	14.35	0.099	301	519	17.06
6	8/ 6/80	2	53	0.31	1.60	0.179	129	4724	2.36
6	8/ 6/80	3	46	0.33	2.14	0.394	157	3745	5.18
6	8/ 6/80	5	19	0.36	4.37	0.437	299	1009	11.12
6	8/ 6/80	7	56	0.29	8.25	0.264	420	604	15.40
6	8/ 6/80	11	18	0.22	8.66	0.144	463	574	16.98
6	8/ 6/80	17	34	0.07	8.35	0.081	468	492	18.50
6	8/ 7/80	9	20	0.12	6.93	0.046	435	495	18.99
6	8/11/80	5	49	0.16	1.19	0.170	78	5040	2.81
6	8/11/80	6	18	0.23	1.82	0.237	95	3356	3.70

TABLE F2-14. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				----------	----------	PPM	----------	----------	----------
6	8/11/80	6	51	0.59	2.40	0.652	194	2416	8.91
6	8/11/80	7	57	0.89	4.11	0.801	370	1328	16.08
6	8/11/80	9	55	0.68	6.78	0.535	423	812	19.56
6	8/11/80	11	49	0.43	7.78	0.290	468	764	18.81
6	8/11/80	14	0	0.28	8.56	0.160	494	655	18.17
6	8/18/80	15	10	0.05	8.21	0.017	396	444	
6	9/30/80	14	15	0.07	5.87	0.266	241	474	15.14

TABLE F2-15. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1980 SITE 7

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				ppm					
7	2/21/80	14	0	1.83	2.35	0.816	91	329	4.59
7	2/21/80	15	40	2.35	2.30	0.993	110	282	5.45
7	2/21/80	19	10	2.80	2.18	1.212	115	228	6.00
7	2/21/80	23	6	2.97	2.23	1.398	139	205	6.16
7	2/22/80	7	28	3.43	2.63	1.718	151	213	7.76
7	2/22/80	11	43	2.12	2.67	1.322	135	254	6.20
7	2/22/80	15	21	1.38	1.85	1.233	113		24.75
7	2/23/80	12	7	3.35	2.30	2.133	219	829	11.67
7	2/23/80	17	35	1.49	1.70	1.510	60	247	28.92
7	3/ 9/80	18	10	1.00	1.50	0.652	177	233	22.98
7	3/14/80	18	0	1.21	1.55	0.887	69		12.51
7	3/14/80	19	30	0.98	1.25	1.167	97	181	8.28
7	3/14/80	23	0	0.91	1.27	1.293	138	188	8.64
7	3/15/80	3	0	0.91	1.27	1.324	114	186	5.22
7	3/15/80	7	0	1.08	1.21	1.366	119	184	7.26
7	3/15/80	9	30	1.22	0.99	1.083	163	266	6.00
7	3/15/80	14	30	1.09	0.59	1.324	122	1421	4.26
7	3/15/80	16	30	1.33	0.56	1.564	101	863	4.68
7	3/15/80	16	42	2.00	0.27	1.684	140	823	5.52
7	3/15/80	19	0	1.40	0.48	1.678	159	422	9.84
7	3/15/80	21	30	1.60	0.51	1.751	136	303	9.21
7	3/16/80	1	0	2.11	0.42	1.925	190	285	11.76
7	3/16/80	5	0	2.20	0.77	1.925	176	305	14.13
7	3/16/80	9	0	1.42	1.02	1.715	88	197	19.46
7	3/16/80	12	2	1.53	1.06	1.660	189		14.05
7	3/16/80	16	52	1.75	1.18	1.739	27	350	14.82
7	3/19/80	12	25	1.48	0.93	1.492	101	153	17.01
7	5/27/80	19	58	0.07	3.63	0.124	82	8317	4.19
7	5/27/80	20	13	0.06	2.33	0.091	87	6323	4.57
7	5/27/80	20	28	0.09	3.78	0.108	104	4243	5.47
7	5/27/80	20	43	0.09	3.82	0.098	141	3403	3.34
7	5/27/80	20	57	0.07	3.93	0.099	140	3283	3.17
7	5/29/80	10	2	0.10	2.77	0.173	171	24910	2.65
7	5/29/80	10	57	0.14	4.93	0.260	209	4804	5.34
7	5/29/80	11	20	0.18	5.50	0.373	229	3132	5.74
7	5/29/80	11	44	0.24	7.39	0.467	287	3532	7.10
7	5/29/80	12	14	0.29	10.13	0.430	307	2473	9.63
7	5/29/80	12	30	0.22	11.88	0.427	296	1617	19.81
7	5/29/80	12	49	0.23	11.25	0.246	270	1541	10.69
7	5/29/80	14	57	0.29	18.79	0.295	438	1326	16.50
7	5/30/80	11	20	0.11	19.52	0.080	425	1304	19.12
7	6/ 2/80	17	20	0.12	0.88	0.123		11010	0.60
7	6/ 2/80	17	45	0.09	0.93	0.161		7003	1.09
7	6/ 2/80	18	15	0.14	1.27	0.325	51	9071	4.23
7	6/ 2/80	19	0	0.17	1.86	0.444	141	5229	6.94
7	6/ 2/80	19	23	0.21	5.50	0.219	159	3305	9.32
7	6/ 2/80	20	0	0.04	6.17	0.151	226	1579	7.50
7	6/ 2/80	20	24	0.24	6.30	0.188	247	2026	8.14
7	6/ 2/80	21	45	0.21	8.64	0.159	344	1724	10.19

TABLE F2-16. FOUR MILE CREEK WATERSHED RUNOFF NUTRIENT CONCENTRATION DATA FOR 1980 SITE 8

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				ppm					
8	1/16/80	17	30	0.22	3.08	0.494	123	2210	19.86
8	1/16/80	22	32	0.30	5.95	0.557	158	359	24.00
8	2/21/80	11	59	0.88	2.17	0.882	143	358	11.31
8	2/21/80	13	34	0.94	1.91	0.765	107	495	8.84
8	2/21/80	14	8	0.99	1.95	0.742	64	389	8.42
8	2/21/80	15	12	0.81	1.79	0.691	63	385	8.55
8	2/21/80	15	25	0.88	1.90	0.704	128	358	9.06
8	2/21/80	19	2	0.87	1.91	0.740	133	295	9.74
8	2/21/80	23	18	0.73	1.94	0.706	130	232	10.31
8	2/22/80	7	18	0.65	2.16	0.714	161	216	11.63
8	2/22/80	11	27	0.61	2.10	0.590	163	460	11.78
8	2/22/80	13	35	0.59	2.05	0.740	151	636	12.02
8	2/22/80	15	15	0.54	1.92	0.710	139	830	12.54
8	2/22/80	19	15	0.52	2.00	0.754	139	324	14.06
8	2/22/80	23	15	0.71	1.61	0.808	161	213	15.83
8	2/23/80	3	15	0.34	1.02	0.386	181	196	17.52
8	2/23/80	7	15	0.54	1.75	0.500	152	198	15.17
8	2/23/80	10	45	0.55	2.47	0.625	135	184	11.12
8	2/23/80	12	40	0.60	2.44	0.505	84	218	9.34
8	2/23/80	17	25	0.59	1.35	0.501	13	432	20.72
8	3/ 9/80	16	4	0.54	1.10	0.228	81	244	7.27
8	3/ 9/80	17	40	0.52	1.20	0.320	26	155	10.80
8	3/14/80	16	5	0.42	1.09	0.273	28		7.89
8	3/14/80	17	5	0.43	0.92	0.309	55	1109	7.13
8	3/14/80	18	30	0.38	0.94	0.325	65	380	6.96
8	3/14/80	21	30	0.40	0.97	0.302	49		10.63
8	3/15/80	0	1	0.36	0.97	0.345	113		9.08
8	3/15/80	14	17	0.23	0.53	0.268	101	5939	6.15
8	3/15/80	15	0	0.23	0.49	0.285	156	4377	9.97
8	3/15/80	16	0	0.43	0.57	0.294	141	3838	8.02
8	3/15/80	17	30	0.20	0.60	0.298	72	2779	8.32
8	3/15/80	20	0	0.23	0.78	0.242	32	1053	10.33
8	3/15/80	23	30	0.18	0.76	0.169	31	401	5.05
8	3/16/80	3	30	0.23	0.96	0.204	68	327	12.52
8	3/16/80	7	30	0.22	0.96	0.216	54	342	9.83
8	3/16/80	11	0	0.24	1.23	0.216	124	1298	10.69
8	3/16/80	13	30	0.09	1.25	0.409	106	1011	8.17
8	3/16/80	16	42	0.32	1.69	0.204	64	875	10.95
8	3/18/80	18	6	0.14	1.06	0.137	46	759	6.17
8	3/19/80	13	5	0.21	2.19	0.141	37	1076	6.87
8	5/29/80	7	45	0.20	2.47	0.147	141	2651	2.59
8	5/29/80	7	50	0.24	5.63	0.030	175	51800	3.16
8	5/29/80	7	55	0.24	5.81	0.041	193	52880	2.94
8	5/29/80	8	0	0.23	5.26	0.041	186	36500	2.63
8	5/29/80	8	10	0.19	4.65	0.039	167	26290	2.40
8	5/29/80	8	20	0.17	4.52	0.027	127	13350	2.40
8	5/29/80	8	30	0.16	3.22	0.032	70	7080	1.84
8	5/29/80	8	35	0.29	2.28	0.081	130	92600	1.77
8	5/29/80	8	40	0.32	1.91	0.018	118	69040	1.77
8	5/29/80	8	45	0.22	2.16	0.060	96	37140	1.11
8	5/29/80	8	50	0.21	2.50	0.078	103	34380	1.77
8	5/29/80	8	55	0.23	2.65	0.073	126	18010	2.03
8	5/29/80	9	0	0.27	3.02	0.111	160	13990	2.22
8	5/29/80	9	10	0.29	3.57	0.181	160	12950	2.73
8	5/29/80	10	14	0.32	5.63	0.199	187	1963	4.31
8	5/30/80	2	0	0.15	1.84	0.049	81	4240	1.20
8	5/30/80	2	15	0.16	1.97	0.048	92	5632	1.33
8	5/30/80	2	30	0.15	2.16	0.051	113	3428	1.20
8	5/30/80	2	45	0.18	2.48	0.048	128	2525	1.57
8	5/30/80	3	0	0.16	1.36	0.054	143	1218	2.17
8	5/30/80	3	15	0.12	2.66	0.056	131	1279	2.17
8	5/30/80	3	30	0.11	3.50	0.051	144	1190	3.49
8	5/30/80	3	45	0.12	3.89	0.066	119	1061	3.49
8	5/30/80	4	0	0.12	2.53	0.044	152	970	3.93
8	6/ 2/80	17	30	0.12	0.98	0.094	57	14420	6.84
8	6/ 2/80	17	35	0.09	0.92	0.087	61	12880	2.77
8	6/ 2/80	17	40	0.12	2.24	0.142	102	16050	1.01
8	6/ 2/80	17	45	0.15	1.30	0.221	81	11820	1.12
8	6/ 2/80	17	50	0.12	1.32	0.328	74	9834	1.56
8	6/ 2/80	17	55	0.13	1.34	0.357	78	8349	5.00
8	6/ 2/80	18	0	0.14	1.17	0.275	69	6298	1.35
8	6/ 2/80	18	10	0.13	0.83	0.178	111	6360	1.65
8	6/ 2/80	18	20	0.10	1.20	0.224	103	4102	1.97
8	6/ 2/80	18	30	0.13	1.10	0.178	95	4049	1.76
8	6/ 2/80	19	27	0.12	2.97	0.041	105	9188	2.63
8	6/ 2/80	19	32	0.11	2.40	0.080	110	8297	2.28
8	6/ 2/80	19	42	0.21	4.07	0.103	133	558	4.62
8	6/ 7/80	5	30	0.06	1.25	0.059	60	10140	0.80
8	6/ 7/80	5	45	0.08	1.32	0.069	60	10520	0.88
8	6/ 7/80	6	0	0.07	1.27	0.204	72	6029	1.03
8	6/ 7/80	6	15	0.07	1.26	0.264	83	5342	1.01
8	6/ 7/80	6	30	0.08	1.34	0.282	78	3652	1.31
8	6/ 7/80	6	45	0.13	2.60	0.087	116	2460	2.16
8	6/ 7/80	7	0	0.08	1.67	0.303	106	2065	1.52
8	6/ 7/80	7	15	0.08	1.66	0.314	116	1870	1.50
8	6/ 7/80	7	30	0.07	1.82	0.312	107	1616	1.78
8	6/13/80	22	0	0.11	2.00	0.059	99	13620	1.61
8	6/13/80	22	15	0.13	1.94	0.060	131	11100	1.20
8	6/13/80	22	30	0.10	1.96	0.065	100	7807	1.30
8	6/13/80	22	45	0.09	2.13	0.130	89	5004	1.41
8	6/13/80	23	0	0.11	2.16	0.269	90	4177	1.45
8	6/13/80	23	15	0.09	2.15	0.303	61	3169	1.41
8	6/13/80	23	30	0.06	2.42	0.312	61	2484	1.61
8	6/13/80	23	45	0.08	2.36	0.271	41	2241	1.74
8	6/13/80	23	59	0.09	2.36	0.295	35	1847	1.82
8	6/15/80	4	0	0.11	1.04	0.214	8	11860	0.64
8	6/15/80	4	15	0.10	1.39	0.210	39	7480	0.70
8	6/15/80	4	30	0.11	1.69	0.214	28	5824	0.98
8	6/15/80	4	45	0.11	2.28	0.208	54	4295	1.30
8	6/15/80	5	0	0.11	2.46	0.219	76	3584	1.57
8	6/15/80	5	15	0.11	2.51	0.251	74	2217	1.94
8	6/15/80	5	30	0.10	2.47	0.240	73	1762	2.34
8	6/15/80	5	45	0.10	2.70	0.234	67	1495	2.93
8	6/15/80	6	0	0.10	2.72	0.249	44	1316	3.00

TABLE F2-16. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				----------	----------	PPM	----------	----------	----------
8	8/ 6/80	2	35	0.08	0.93	0.168	92	1538	1.65
8	8/ 6/80	2	50	0.11	0.99	0.141	147	3006	1.81
8	8/ 6/80	3	5	0.07	1.04	0.158	119	1384	1.99
8	8/ 6/80	3	20	0.07	1.11	0.183	118	1200	2.19
8	8/ 6/80	3	35	0.13	1.26	0.241	134	1008	2.75
8	8/ 6/80	3	50	0.11	1.32	0.258	160	999	2.38
8	8/ 6/80	4	5	0.10	1.36	0.281	182	668	2.66
8	8/ 6/80	4	20	0.12	1.45	0.300	183	456	3.10
8	8/ 6/80	4	35	0.12	1.48	0.303	162	361	8.57
8	8/11/80	5	0	0.05	0.33	0.062	125	8169	11.72
8	8/11/80	5	15	0.05	0.38	0.085	172	5840	12.96
8	8/11/80	5	30	0.06	0.37	0.100	160	3801	14.12
8	8/11/80	5	45	0.04	0.43	0.130	79	2690	13.96
8	8/11/80	6	0	0.08	0.51	0.149	81	1866	10.19
8	8/11/80	6	15	0.05	0.57	0.188	77	1287	8.27
8	8/11/80	6	30	0.07	0.59	0.213	70	931	3.58
8	8/11/80	6	45	0.10	0.58	0.200	71	662	11.42
8	8/11/80	7	0	0.05	0.61	0.188	60	563	7.13
8	8/11/80	7	15	0.06	0.63	0.198	71	563	10.03

TABLE F3- 1. FOUR MILE CREEK WATERSHED TILE NUTRIENT CONCENTRATION DATA FOR 1979

TILE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				---PPM---					
10	1/ 4/79	14	0	0.01	9.68	0.012	273	315	8.91
10	1/12/79	12	10	0.01	9.79	0.035	260	265	7.95
10	3/19/79	16	45	0.37	7.25	0.122	148	155	17.98
10	3/20/79	12	50	0.01	8.87	0.043	248	254	18.92
10	3/23/79	5	20	0.0	10.03	0.032	252	269	21.97
10	3/29/79	12	4	0.02	8.33	0.066	207	272	8.00
10	4/ 5/79	12	35	0.0	10.36	0.185	239	245	7.79
10	4/13/79	14	15	0.0	10.98	0.031	216	243	7.31
10	4/18/79	19	25	0.0	11.32	0.041	247	254	7.31
10	4/20/79	18	8	0.0	11.80	0.035	239	254	6.51
10	4/24/79	12	45	0.0	12.96	0.041	243	248	7.71
10	5/ 1/79	15	25	0.04	13.37	0.025	240	292	9.55
10	5/ 9/79	13	45	0.04	13.11	0.025	287	311	9.48
10	5/15/79	17	40	0.0	12.98	0.049	280	303	8.92
10	5/22/79	16	55	0.0	12.98	0.013	287	303	8.03
10	5/29/79	14	26	0.01	15.79	0.023	379	402	18.40
10	6/ 5/79	15	20	0.01	11.51	0.015	290	320	8.27
10	6/12/79	13	43	0.02	19.71	0.023	358	451	23.27
10	6/13/79	11	55	0.0	13.03	0.014	367	368	8.87
10	6/19/79	12	4	0.0	14.18	0.012	263	309	7.94
10	6/26/79	13	45	0.02	14.79	0.015	329	373	8.52
10	7/ 3/79	18	0	0.0	17.57	0.020	329	376	10.90
10	7/11/79	12	25	0.03	18.70	0.018	319	458	17.81
10	7/19/79	11	52	0.03	34.86	0.059	750	895	56.07
10	7/26/79	10	12	0.04	39.79	0.042	797	959	58.97
10	8/ 2/79	15	50	0.01	15.72	0.013	374	392	9.52
10	8/ 9/79	15	5	0.02	12.86	0.010	342	367	14.14
10	8/15/79	11	30	0.04	12.19	0.011	308	366	12.15
10	8/22/79	12	55	0.02	10.47	0.021	333	354	11.84
10	8/28/79	18	30	0.03	10.40	0.010	333	374	13.45
10	9/ 5/79	19	35	0.05	8.21	0.021	420	598	13.33
10	9/12/79	15	51	0.02	5.88	0.014	323	423	10.38
10	9/26/79	16	30	0.14	5.16	0.009	388	390	8.20
10	10/ 2/79	15	0	0.08	5.50	0.009	357	409	8.91
10	10/ 9/79	14	35	0.05	4.54	0.006	264	321	8.43
10	10/16/79	14	25	0.05	4.39	0.012	262	292	7.90
10	10/23/79	15	30	0.05	7.91	0.015	279	307	13.54
10	10/30/79	12	55	0.04	7.50	0.020	220	293	10.36
10	11/ 6/79	14	45	0.08	6.84	0.006	239	263	12.74
10	11/21/79	19	25	0.0	6.57	0.014	214	243	8.36
10	11/28/79	17	20	0.0	7.46	0.013	232	252	9.64
10	12/ 4/79	17	20	0.02	7.61	0.011	224	239	8.62
10	12/10/79	16	20	0.03	7.58	0.009	234	248	9.58
10	12/19/79	16	40	0.0	7.30	0.014	226	254	8.14
10	12/26/79	14	45	0.02	7.35	0.009	246	253	9.28
11	1/ 4/79	13	15	0.05	11.60	0.026	263	274	17.11
11	1/12/79	12	20	0.01	11.47	0.041	264	291	9.06
11	1/18/79	13	15	0.0	11.27	0.002	162	258	12.40
11	1/31/79	13	0	0.0	9.72	0.006	215	264	7.85
11	2/13/79	12	15	0.0	9.81	0.008		276	7.64
11	2/23/79	13	30	0.0	9.34	0.003	252	256	10.03
11	3/ 2/79	15	50	0.0	10.16	0.013	269	299	10.03
11	3/ 5/79	14	35	0.0	8.80	0.040	265	348	14.45
11	3/ 6/79	13	35	0.0	7.92	0.022	263	418	9.13
11	3/12/79	12	40	0.0	9.84	0.035	289	309	13.66
11	3/16/79	14	15	0.02	7.54	0.122	239	269	18.18
11	3/18/79	11	20	0.06	6.04	0.060	134	200	10.49
11	3/20/79	11	6	0.08	10.00	0.061	219	230	14.19
11	3/23/79	5	12	0.0	9.66	0.043	226	228	13.03
11	3/28/79	13	15	0.01	10.69	0.026	256	275	10.23
11	4/ 5/79	12	40	0.0	11.86	0.062	258	254	10.95
11	4/13/79	14	0	0.0	11.78	0.040	220	246	10.06
11	4/18/79	19	20	0.0	12.38	0.048	218	253	10.87
11	4/20/79	18	18	0.0	13.62	0.033	246	252	11.36
11	4/24/79	12	33	0.0	13.49	0.028	261	303	12.18
11	5/ 1/79	15	10	0.01	13.46	0.026	261	285	13.03
11	5/ 9/79	13	3	0.0	13.70	0.023	141	304	13.19
11	5/15/79	17	50	0.0	12.49	0.021	276	285	11.77
11	5/22/79	16	15	0.0	12.14	0.022	270	294	11.36
11	5/29/79	14	46	0.02	11.59	0.027	275	311	13.41
11	6/ 5/79	15	40	0.03	11.78	0.026	274	288	11.69
11	6/ 9/79	11	25	0.01	12.32	0.026	235	297	10.03
11	6/12/79	13	17	0.0	12.06	0.029	246	287	9.78
11	6/13/79	11	42	0.0	13.77	0.026	373	384	10.69
11	6/19/79	12	26	0.0	12.95	0.024	274	302	9.99
11	6/26/79	13	35	0.01	12.97	0.023	252	324	10.63
11	7/ 3/79	18	10	0.02	16.15	0.027	356	447	12.16
11	7/11/79	11	6	0.03	12.08	0.019	277	325	20.52
11	7/19/79	11	50	0.02	13.99	0.021	309	365	12.07
11	7/26/79	9	9	0.0	13.08	0.027	358	381	12.05
11	8/ 2/79	15	20	0.0	12.84	0.028	350	366	11.95
11	8/ 9/79	14	15	0.03	11.92	0.030	278	350	16.66
11	8/15/79	11	15	0.02	11.34	0.025	319	352	16.32
11	8/22/79	11	50	0.02	9.65	0.031	309	343	14.57
11	8/28/79	18	30	0.04	10.46	0.031	332	362	13.64
11	9/ 5/79	19	10	0.01	10.44	0.052	334	380	17.84
11	9/12/79	15	0	0.03	10.32	0.028	333	374	18.58
11	9/19/79	15	20	0.08	11.34	0.029	361	410	13.37
11	9/26/79	16	20	0.05	10.49	0.027	359	387	11.36
11	10/ 2/79	13	10	0.06	9.57	0.025	362	366	14.72
11	10/ 9/79	15	45	0.05	9.15	0.019	258	283	12.51
11	10/16/79	16	0	0.05	9.41	0.029	274	284	12.48
11	10/23/79	15	40	0.06	8.40	0.027	252	289	15.12
11	10/30/79	12	45	0.03	9.61	0.020	233	268	14.96
11	11/ 6/79	15	15	0.04	8.87	0.010	234	270	14.44
11	11/21/79	19	20	0.16	6.14	0.044	201	308	15.13
10	11/28/79	17	10	0.03	8.99	0.019	202	239	14.05
11	12/10/79	16	10	0.01	8.86	0.023	235	232	13.03
11	12/14/79	16	0	0.15	8.91	0.022	244	253	13.44
11	12/19/79	16	50	0.27	9.27	0.021	232	244	12.83
11	12/26/79	15	0	0.04	9.01	0.027	310	375	13.13
12	1/ 4/79	13	15	0.0	11.73	0.018	359	382	17.11

TABLE F3- 1. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
12	1/12/79	12	20	0.0	11.13	0.017	305	376	17.11
12	1/18/79	13	15	0.0	9.91	0.0	70	280	5.87
12	1/31/79	13	0	0.0	12.03	0.001	44	322	4.09
12	2/13/79	12	15	0.0	10.30	0.008	59	271	4.43
12	2/23/79	13	30	0.0	12.91	0.002	62	310	3.43
12	3/ 2/79	15	50	0.0	12.68	0.018	80	324	6.83
12	3/ 5/79	14	35	0.02	7.20	0.343	150	300	20.32
12	3/ 6/79	13	35	0.04	10.89	0.048	102	310	5.87
12	3/12/79	12	40	0.0	8.66	0.134	360	368	14.96
12	3/16/79	14	15	0.01	6.60	0.166	273	309	13.26
12	3/18/79	11	18	0.19	4.18	0.318	199	214	15.65
12	3/20/79	11	8	0.20	8.99	0.078	263	271	17.04
12	3/23/79	5	10	0.52	9.25	0.161	271	281	18.48
12	3/28/79	13	15	0.04	11.11	0.074	323	327	15.20
12	4/ 5/79	12	40	0.0	11.96	0.046	298	334	19.16
12	4/13/79	14	0	0.13	13.21	0.044	269	280	18.82
12	4/18/79	19	20	0.0	13.03	0.045	273	355	18.48
12	4/20/79	18	20	0.0	13.87	0.094	304	356	22.55
12	4/24/79	12	33	0.0	14.38	0.041	319	359	20.51
12	5/ 1/79	15	10	0.0	14.74	0.029	328	349	19.05
12	5/ 9/79	13	5	0.0	15.76	0.028	361	379	19.77
12	5/15/79	17	50	0.0	14.17	0.021	321	332	17.56
12	5/22/79	16	15	0.0	14.75	0.021	293	323	17.65
12	5/29/79	14	47	0.0	13.38	0.030	304	374	17.98
12	6/ 5/79	15	40	0.05	13.84	0.031	345	354	17.50
12	6/ 9/79	11	25	0.07	15.73	0.045	355	402	15.44
12	6/12/79	13	17	0.0	14.72	0.027	351	379	16.79
12	6/13/79	11	41	0.0	15.82	0.040	439	441	19.19
12	6/19/79	12	27	0.0	16.16	0.181	354	391	17.62
12	6/26/79	13	35	0.01	17.24	0.027	392	411	17.98
12	7/ 3/79	18	10	0.0	17.77	0.037	431	479	17.99
12	7/11/79	11	7	0.04	17.97	0.019	344	391	18.42
12	7/19/79	11	59	0.02	19.45	0.023	438	475	17.52
12	7/26/79	9	10	0.04	17.95	0.025	428	471	17.25
12	8/ 2/79	15	18	0.01	16.14	0.024	422	453	16.16
12	8/ 9/79	14	15	0.05	15.58	0.028	337	389	17.70
12	8/15/79	11	15	0.02	14.53	0.019	330	442	16.62
12	8/22/79	11	50	0.03	12.75	0.067	410	413	18.78
12	8/28/79	18	30	0.02	8.29	0.034	330	360	16.96
12	9/ 5/79	19	12	0.03	12.14	0.037	407	442	20.59
12	9/12/79	15	0	0.03	11.73	0.038	401	451	21.12
12	9/19/79	15	20	0.07	11.66	0.041	460	464	24.93
12	9/26/79	16	20	0.07	11.29	0.034	395	443	24.30
12	10/ 2/79	13	10	0.08	10.63	0.044	433	451	21.52
12	10/ 9/79	15	45	0.05	9.95	0.031	342	345	20.93
12	10/16/79	16	0	0.06	9.57	0.037	350	366	21.98
12	10/23/79	15	40	0.06	10.92	0.040	348	349	24.36
12	10/30/79	12	45	0.04	11.07	0.025	310	398	23.55
12	11/ 6/79	15	15	0.04	10.36	0.026	276	388	22.75
12	11/21/79	19	20	1.35	7.03	0.569	242	326	23.17
12	11/28/79	17	10	0.01	7.39	0.023	304	327	21.53
12	12/ 4/79	16	0	0.0	9.58	0.023	299	306	22.06
12	12/10/79	16	10	0.01	9.42	0.027	283	307	21.67
12	12/19/79	16	50	0.0	8.93	0.031	287	297	21.19
12	12/26/79	15	0	0.01	9.06	0.034	278	281	20.98
13	1/ 4/79	13	0	0.07	21.25	0.021	470	477	25.33
13	1/12/79	12	5	0.09	22.00	0.089	458	478	27.48
13	1/18/79	12	35	0.08	27.35	0.012	118	494	9.35
13	2/23/79	13	15	0.01		0.002	127	382	8.16
13	3/ 2/79	15	45	0.0	26.61	0.022	98	360	6.64
13	3/ 5/79	14	21	1.70	12.70	0.449	311	349	5.32
13	3/ 6/79	13	22	1.15	9.56	0.725	113	286	5.50
13	3/12/79	11	38	1.14		0.754	296	312	13.92
13	3/16/79	14	5	0.92	4.04	0.457	219	280	9.13
13	3/18/79	11	8	1.01	6.14	0.452	247	266	13.03
13	3/20/79	10	59	0.24	9.45	0.170	301	315	22.33
13	3/23/79	4	57	1.53	10.66	0.580	321	355	21.35
13	3/28/79	13	10	0.42	10.31	0.207	333	380	15.52
13	4/ 5/79	12	30	0.07	11.91	0.330	338	390	17.06
13	4/13/79	13	55	0.0	13.36	0.065	321	350	17.06
13	4/18/79	19	30	0.01	13.92	0.051	360	379	17.23
13	4/20/79	18	30	0.0	17.06	0.143	316	375	13.41
13	4/24/79	12	25	0.11	15.66	0.054	354	377	15.73
13	5/ 1/79	15	0	0.01	16.60	0.035	341	380	16.02
13	5/ 9/79	14	40	0.01	17.38	0.036	387	394	16.12
13	5/15/79	17	55	0.0	17.39	0.027	345	383	14.98
13	5/22/79	16	30	0.0	17.34	0.026	370	393	14.98
13	5/29/79	14	20	0.0	17.64	0.041	416	448	16.64
13	6/ 5/79	15	50	0.0	18.84	0.045	379	401	16.18
13	6/12/79	13	9	0.0	17.40	0.036	362	389	13.66
13	6/13/79	11	32	0.0	17.86	0.073	466	487	13.52
13	6/19/79	11	50	0.0	17.55	0.050	399	426	13.22
13	6/26/79	14	0	0.0	20.83	0.040	434	462	14.90
13	7/ 3/79	18	20	0.04	16.27	0.122	442	450	13.85
13	7/11/79	10	52	0.10	19.09	0.118	387	426	19.18
13	7/19/79	11	41	0.04	19.64	0.055	467	520	24.81
13	7/26/79	8	59	0.0	20.60	0.042	471	505	15.18
13	8/ 2/79	15	10	0.0	22.31	0.050	497	511	16.47
13	8/ 9/79	14	5	0.03	22.61	0.026	397	474	24.27
13	8/15/79	11	0	0.05	21.41	0.022	370	483	21.10
13	8/22/79	11	38	0.04	10.32	0.080	382	398	18.05
13	8/28/79	18	20	0.04	18.99	0.025	372	459	21.27
13	9/ 5/79	19	3	0.04	21.37	0.039	455	576	22.05
13	9/12/79	14	46	0.03	21.16	0.024	435	486	23.07
13	9/19/79	15	0	0.10	19.45	0.026	448	532	20.55
13	9/26/79	16	0	0.07	15.36	0.023	352	438	16.02
13	10/ 2/79	13	0	0.08	13.93	0.023	345	438	16.74
13	10/23/79	15	15	0.05	12.73	0.109	375	376	19.09
13	10/30/79	12	40	0.08	18.02	0.065	355	411	26.32
13	11/ 6/79	14	30	0.06	14.62	0.057	325	436	25.27
13	11/21/79	19	10	0.0	16.15	0.019	285	289	18.01
13	11/28/79	17	5	0.0	17.91	0.015	269	300	18.41
13	12/10/79	16	0	0.0	16.81	0.021	255	267	17.49

TABLE F3- 1. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
13	12/19/79	16	55	0.01	15.83	0.020	275	310	18.90
13	12/26/79	15	10	0.02	15.66	0.009	413	455	17.38
14	1/ 4/79	13	0	0.20	14.00	0.083	390	407	22.04
14	1/12/79	12	5	0.79	14.93	0.253	420	467	26.98
14	1/18/79	12	35	0.13	15.68	0.012	125	388	10.72
14	1/31/79	12	30	0.05		0.013	68	345	5.32
14	2/13/79	12	15	0.11	10.87	0.054	113	315	7.64
14	2/23/79	13	15	0.24	16.05	0.052	75	415	7.85
14	3/ 2/79	15	45	0.28	14.83	0.054	215	470	5.50
14	3/ 5/79	14	20	2.36	13.11	0.640	60	337	7.85
14	3/ 6/79	13	22	1.70	10.17	0.608	268	333	8.06
14	3/12/79	11	43	1.19	6.43	0.868	272	286	14.19
14	3/16/79	14	5	0.96	2.97	0.469	195	268	7.85
14	3/18/79	11	5	1.19	6.39	0.523	231	265	14.32
14	3/20/79	11	0	0.65	9.80	0.225	306	316	22.15
14	3/23/79	4	59	1.86	9.79	0.700	330	361	20.42
14	3/28/79	13	10	0.70	9.67	0.277	326	434	16.34
14	4/ 5/79	12	30	0.16	10.67	0.374	339	396	14.15
14	4/13/79	13	55	0.10	12.00	0.086	355	381	17.06
14	4/18/79	19	30	0.0	12.25	0.064	326	381	17.06
14	4/20/79	18	32	0.0	13.33	0.280	315	376	16.23
14	4/24/79	12	25	0.07	14.29	0.066	312	366	15.64
14	5/ 1/79	15	0	0.02	15.04	0.051	344	375	16.68
14	5/ 9/79	14	40	0.02	15.88	0.038	371	402	16.31
14	5/15/79	17	55	0.0	15.02	0.040	398	427	15.89
14	5/22/79	16	30	0.0	14.84	0.036	367	424	14.65
14	5/29/79	14	19	0.0	15.08	0.052	399	435	15.48
14	6/ 5/79	15	50	0.0	14.92	0.064	381	397	15.75
14	6/12/79	13	9	0.0	14.86	0.057	370	395	12.70
14	6/13/79	11	31	0.0	15.87	0.097	455	456	12.85
14	6/19/79	11	50	0.0	15.85	0.080	404	425	13.48
14	6/26/79	14	0	0.0	16.74	0.059	438	445	14.10
14	7/ 3/79	18	20	0.01	15.30	0.144	446	487	13.34
14	7/11/79	10	52	0.14	15.38	0.066	347	368	16.23
14	7/19/79	11	42	0.0	17.76	0.059	453	484	14.01
14	7/26/79	9	0	0.0	18.03	0.062	451	500	13.82
14	8/ 2/79	15	9	0.01	12.95	0.075	394	407	13.00
14	8/ 9/79	14	5	0.02	16.93	0.068	370	451	88.37
14	8/15/79	11	0	0.14	15.65	0.149	407	450	17.99
14	8/22/79	11	39	0.04	7.10	0.130	434	439	18.55
14	8/28/79	18	20	0.02	11.18	0.061	365	403	17.24
14	9/ 5/79	19	1	0.17	12.87	0.365	459	527	23.88
14	9/12/79	14	46	0.02	13.16	0.189	380	443	18.88
14	9/19/79	15	0	0.06	13.11	0.168	447	485	20.98
14	9/26/79	16	0	0.56	12.26	0.178	433	518	19.98
14	10/ 2/79	13	0	0.08	11.84	0.365	454	512	24.19
14	10/ 9/79	15	55	0.05	11.27	0.255	381	419	22.86
14	10/16/79	15	40	0.15	10.96	0.197	373	384	23.36
14	10/23/79	15	15	0.06	0.65	0.136	366	385	21.45
14	10/30/79	12	40	0.07	12.35	0.099	318	431	21.25
14	11/ 6/79	14	30	0.08	11.06	0.103	305	403	20.08

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
E14	11/28/79	17	5	0.0	10.84	0.027	338	345	18.76
W14	11/28/79	17	5	0.01	7.77	0.060	369	394	33.35
E14	12/ 4/79	17	0	0.0	6.16	0.035	368	392	19.01
W14	12/ 4/79	17	0	0.03	7.52	0.070	359	371	24.53
E14	12/10/79	16	0	0.01	9.15	0.045	382	423	19.14
W14	12/10/79	16	0	0.03	7.37	0.084	342	374	28.35
E14	12/19/79	16	55	0.23	4.55	0.308	381	393	18.93
W14	12/19/79	16	55	0.01	7.34	0.094	367	417	26.63
E14	12/26/79	15	10	0.54	11.01	0.184	409	426	
W14	12/26/79	15	10	0.60	7.22	0.161	307	518	
15	1/ 4/79	13	0	0.24	11.23	0.095	344	423	14.69
15	1/12/79	12	5	0.09	11.20	0.103	364	374	16.57
15	1/18/79	12	35	0.05	11.18	0.015	88	316	8.73
15	1/31/79	12	30	0.08	11.58	0.015	56	435	8.27
15	2/13/79	12	15	0.05	12.54	0.012	34	360	4.26
15	2/23/79	13	15	0.01	9.92	0.061	113	338	18.04
15	3/ 2/79	15	45	0.15	10.51	0.091	373	434	15.25
15	3/ 5/79	14	19	1.08	9.73	0.250	167	283	4.96
15	3/ 6/79	13	22	0.78	9.91	0.495	261	343	4.53
15	3/12/79	11	42	0.59	6.37	0.309	276	294	11.19
15	3/16/79	14	5	0.53	3.62	0.297	195	257	7.85
15	3/18/79	11	6	0.91	4.11	0.385	150	2157	7.34
15	3/20/79	11	0	0.19	8.84	0.123	280	296	16.06
15	3/23/79	4	58	1.51	8.96	0.448	296	337	20.73
15	3/28/79	13	10	1.57	7.12	0.676	370	608	18.62
15	4/ 5/79	12	30	0.27	9.92	0.198	306	363	15.89
15	4/13/79	13	55	0.0	11.15	0.087	287	343	18.91
15	4/18/79	19	30	0.06	11.18	0.083	287	334	19.16
15	4/20/79	18	34	0.0	13.06	0.153	265	340	14.24
15	4/24/79	12	25	0.0	13.22	0.070	281	333	13.49
15	5/ 1/79	15	0	0.05	13.31	0.058	289	341	16.68
15	5/ 9/79	14	40	0.01	14.00	0.040	330	346	14.51
15	5/15/79	17	55	0.0	13.34	0.047	326	354	11.36
15	5/22/79	16	30	0.0	12.00	0.039	318	365	12.51
15	5/29/79	14	19	0.08	12.15	0.067	346	384	15.89
15	6/ 5/79	15	50	0.0	11.76	0.060	310	406	14.54
15	6/12/79	13	9	0.02	9.97	0.051	301	307	11.05
15	6/13/79	11	31	0.0	13.04	0.090	406	413	12.26
15	6/19/79	11	49	0.01	11.82	0.071	334	342	11.23
15	6/26/79	14	0	0.01	12.80	0.057	352	356	9.86
15	7/ 3/79	18	20	0.03	13.62	0.118	360	397	12.18
15	7/11/79	10	51	0.15	13.65	0.102	315	339	16.23
15	7/19/79	11	42	0.02	13.32	0.093	382	426	13.71
15	7/26/79	9	1	0.05	13.36	0.086	387	396	13.41
15	8/ 2/79	15	9	0.19	13.07	0.169	426	434	36.38
15	8/ 9/79	14	5	0.11	12.24	0.120	361	393	24.27
15	8/15/79	11	0	0.06	12.24	0.127	341	373	25.45
15	8/22/79	11	39	0.03	9.09	0.158	382	405	16.57
15	8/28/79	18	20	0.04	8.31	0.105	332	357	18.67
15	9/ 5/79	19	0	0.05	8.64	0.124	398	484	23.88
15	9/12/79	14	46	0.15	8.01	0.251	397	425	39.58

TABLE F3- 1. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
15	9/19/79	15	0	0.20	8.35	0.161	433	478	51.47
15	9/26/79	16	0	0.10	6.58	0.159	350	404	26.71
15	10/ 2/79	13	0	0.18	6.05	0.172	401	405	37.53
15	10/ 9/79	15	55	0.06	5.15	0.125	356	373	37.02
15	10/16/79	15	40	0.06	5.06	0.138	341	382	36.06
15	10/23/79	15	15	0.06	8.90	0.184	309	329	20.14
15	10/30/79	12	40	0.06	10.48	0.078	281	367	32.41
15	11/ 6/79	14	30	0.06	9.08	0.085	269	384	32.41
15	11/21/79	19	10	0.56	10.28	0.411	314	327	20.53
15	11/28/79	17	5	0.0	12.53	0.048	300	312	15.40
15	12/ 4/79	17	0	0.03	12.58	0.053	287	300	15.44
15	12/10/79	16	0	0.0	11.43	0.066	279	278	14.47
15	12/19/79	16	55	0.0	10.30	0.058	252	255	14.47
15	12/26/79	15	10	0.0	9.74	0.057	357	363	14.26
16	1/ 4/79	12	30	0.0	23.87	0.006	443	518	30.82
16	1/12/79	11	50	0.0	24.67	0.070	520	532	27.36
16	1/18/79	12	20	0.01	24.46	0.005	310	466	9.80
16	1/31/79	12	20	0.03	18.00	0.001	93	408	8.70
16	2/13/79	12	0	0.03	29.02	0.019	110	562	7.44
16	2/23/79	13	0	0.0	15.63	0.004	373	413	6.83
16	3/ 2/79	15	30	0.0	25.34	0.006	367	472	12.16
16	3/ 5/79	14	3	0.65	16.75	0.554	433	450	6.83
16	3/ 6/79	13	10	0.32	17.59	0.241	189	363	4.78
16	3/12/79	11	24	0.67	17.60	0.280	525	554	21.46
16	3/16/79	13	40	0.66	7.95	0.794	380	395	19.22
16	3/18/79	10	37	0.46	6.58	0.612	257	295	24.48
16	3/20/79	10	44	0.12	13.25	0.191	347	365	23.93
16	3/23/79	4	40	0.33	13.51	0.326	291	363	25.78
16	3/28/79	12	56	1.34	20.00	0.608	518	529	22.67
16	4/ 5/79	12	5	0.0	18.22	0.082	373	485	30.51
16	4/13/79	13	20	0.0	17.91	0.084	339	445	25.72
16	4/18/79	19	40	0.0	19.69	0.077	387	457	26.07
16	4/20/79	19	17	0.0	16.70	0.264	373	403	22.89
16	4/24/79	11	40	0.0	19.22	0.084	394	440	25.20
16	5/ 1/79	14	45	0.0	21.58	0.032	384	424	28.98
16	5/ 9/79	15	5	0.0	22.54	0.047	466	470	26.96
16	5/15/79	19	10	0.0	19.96	0.055	469	534	27.02
16	5/22/79	16	40	0.0	20.27	0.033	417	522	23.92
16	5/29/79	14	0	0.0	20.82	0.055	489	517	26.24
16	6/ 5/79	16	10	0.0	19.52	0.069	437	469	24.35
16	6/12/79	12	56	0.02	20.15	0.032	419	464	21.93
16	6/13/79	11	13	0.0	20.78	0.071	541	688	21.93
16	6/19/79	11	31	0.0	20.52	0.031	431	471	22.41
16	6/26/79	14	20	0.0	23.09	0.031	508	516	23.27
16	7/ 3/79	18	40	0.03	21.81	0.049	401	489	19.09
16	7/11/79	10	11	0.02	25.26	0.015	368	458	24.45
16	7/19/79	11	31	0.0	22.77	0.024	479	514	23.82
16	7/26/79	8	43	0.0	23.00	0.029	468	517	24.41
16	8/ 2/79	14	42	0.07	22.06	0.021	460	620	22.84
16	8/ 9/79	13	50	0.02	25.23	0.026	475	525	29.45
16	8/15/79	10	24	0.02	25.26	0.013	438	564	23.90

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
16	8/22/79	11	16	0.08	15.32	0.054	439	455	20.65
16	8/28/79	18	10	0.02	24.96	0.024	462	477	24.45
16	9/ 5/79	18	51	0.06	23.33	0.052	497	639	26.41
16	9/12/79	14	20	0.02	22.23	0.010	523	511	30.45
16	9/26/79	14	5	0.09	19.22	0.017	467	520	29.74
16	10/ 2/79	12	30	0.10	19.58	0.035	524	564	33.67
16	10/23/79	15	0	0.07	19.76	0.125	394	404	29.69
16	10/30/79	12	10	0.06	20.77	0.035	366	457	29.72
16	11/ 6/79	13	20	0.04	20.89	0.028	341	460	26.91
16	11/21/79	19	0	1.05	17.35	1.184	347	380	35.45
16	11/28/79	17	0	0.02	17.09	0.015	367	416	24.30
16	12/ 4/79	13	30	0.01	11.86	0.005	419	471	24.07
16	12/10/79	15	30	0.0	18.14	0.009	363	459	24.62
16	12/19/79	17	0	0.0	13.77	0.012	385	464	25.71
15	12/26/79	15	15	0.0	17.18	0.011	480	659	26.19
17	1/ 4/79	12	30	0.0	17.87	0.008	401	433	13.89
17	1/12/79	11	50	0.0	16.80	0.020	409	566	13.89
17	1/18/79	12	20	0.0	16.91	0.005	101	239	7.85
17	1/31/79	12	0	0.0	15.86	0.006	242	420	4.96
17	2/13/79	12	0	0.0	15.89	0.006	286	402	4.26
17	2/23/79	13	0	0.0	16.15	0.004	339	356	6.06
17	3/ 2/79	15	30	0.0	15.09	0.017	296	391	4.09
17	3/ 5/79	14	1	0.50	9.01	0.336	200	338	2.51
17	3/ 6/79	13	10	0.59	8.63	0.667	290	302	4.09
17	3/12/79	11	18	0.35	9.87	0.231	344	356	17.75
17	3/16/79	13	40	0.68	4.83	0.770	259	335	10.03
17	3/18/79	10	34	0.27	5.13	0.260	207	563	10.60
17	3/20/79	10	46	0.10	10.70	0.161	316	319	22.14
17	3/23/79	4	36	0.34	10.21	0.280	191	284	21.42
17	3/28/79	12	55	0.29	9.51	0.250	327	362	20.79
17	4/ 5/79	12	5	0.05	13.73	0.178	351	401	17.23
17	4/13/79	13	20	0.01	14.10	0.122	305	390	17.73
17	4/18/79	19	40	0.0	14.67	0.045	293	408	17.90
17	4/20/79	19	19	0.0	13.93	0.107	270	352	13.82
17	4/24/79	11	40	0.0	16.02	0.071	340	375	17.14
17	5/ 1/79	14	45	0.03	16.95	0.049	339	368	18.29
17	5/ 9/79	15	7	0.01	16.75	0.053	386	411	18.17
17	5/15/79	19	10	0.0	15.78	0.032	372	421	17.14
17	5/22/79	16	40	0.0	15.11	0.017	389	393	17.14
17	5/29/79	14	2	0.13	15.41	0.028	410	445	17.90
17	6/ 5/79	16	10	0.0	14.83	0.026	364	376	17.06
17	6/12/79	12	56	0.07	16.18	0.013	362	390	16.25
17	6/13/79	11	8	0.0	16.66	0.052	451	469	14.97
17	6/19/79	11	28	0.0	16.10	0.020	402	407	15.35
17	6/26/79	14	20	0.0	16.74	0.023	431	439	15.89
17	7/ 3/79	18	40	0.03	18.58	0.034	383	423	14.64
17	7/11/79	10	13	0.03	19.84	0.015	336	420	18.16
17	7/19/79	11	32	0.0	19.65	0.026	414	471	15.81
17	7/26/79	8	45	0.0	18.27	0.020	389	469	15.84
17	8/ 2/79	14	43	0.0	17.80	0.029	424	468	16.16
17	8/ 9/79	13	50	0.01	22.80	0.020	370	393	21.85

TABLE F3- 1. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				----------	----------	PPM	----------	----------	----------
17	8/15/79	10	23	0.03	16.81	0.017	350	396	20.10
17	8/22/79	11	17	0.04	15.91	0.026	399	469	18.52
17	8/28/79	18	10	0.03	17.93	0.014	353	385	20.87
17	9/ 5/79	18	53	0.04	15.66	0.046	448	487	18.09
17	9/12/79	14	20	0.01	15.00	0.044	428	809	20.97
17	9/26/79	14	5	0.05	13.42	0.041	399	469	24.16
17	10/ 2/79	12	30	0.15	13.00	0.044	415	436	23.31
17	10/23/79	15	0	0.05	16.03	0.182	367	373	19.77
17	10/30/79	12	10	0.04	17.57	0.028	321	386	21.27
17	11/ 6/79	13	20	0.04	17.03	0.030	343	406	20.27
17	11/21/79	19	0	6.12	12.11	2.128	301	414	51.65
17	11/28/79	17	0	0.0	15.61	0.025	318	399	21.23
17	12/ 4/79	13	30	0.0	15.07	0.012	335	388	21.05
17	12/10/79	15	30	0.0	15.21	0.012	293	378	21.05
17	12/19/79	17	0	0.0	15.24	0.009	280	370	20.92
17	12/26/79	15	15	0.0	15.27	0.016	277	357	20.62
18	3/16/79	17	15	0.0	2.61	0.029	228	244	5.50
18	3/17/79	15	40	0.0	1.19	0.154	215	212	3.84
18	3/18/79	12	1	0.23	2.47	0.185	175	177	9.46
18	3/19/79	12	20	0.07	3.21	0.193	99	117	19.81
18	3/20/79	11	35	0.23	4.37	0.045	152	223	16.69
18	3/23/79	5	32	0.25	5.03	0.138	109	205	23.90
18	3/29/79	16	15	0.0	5.45	0.041	187	215	4.46
18	4/ 5/79	13	5	0.0	6.34	0.035	219	284	7.31
18	4/13/79	16	30	0.0	6.28	0.029	192	277	7.31
18	4/18/79	19	5	0.0	6.27	0.039	203	332	12.18
18	4/20/79	16	1	0.0	6.00	0.069	256	293	6.19
18	4/24/79	14	40	0.0	6.89	0.035	284	292	7.71
18	5/ 1/79	17	10	0.01	7.55	0.028	210	287	9.60
18	5/ 9/79	12	36	0.0	7.60	0.028	262	285	9.53
18	5/15/79	15	35	0.0	7.55	0.018	284	323	8.52
18	5/22/79	16	0	0.0	7.78	0.026	269	325	9.73
18	5/29/79	15	25	0.0	7.38	0.011	312	330	20.93
18	6/ 5/79	12	10	0.0	7.54	0.025	248	278	9.59
18	6/12/79	13	37	0.0	7.92	0.029	281	316	7.70
18	6/13/79	13	0	0.0	10.64	0.033	340	359	8.67
18	6/19/79	12	48	0.0	8.73	0.023	254	291	7.70
18	6/26/79	11	30	0.0	8.96	0.039	308	316	8.36
18	7/ 3/79	19	30	0.0	12.53	0.020	260	315	9.77
18	7/11/79	11	20	0.02	10.35	0.038	275	281	11.24
18	7/19/79	11	0	0.0	11.08	0.039	295	325	10.48
18	7/26/79	9	35	0.0	8.09	0.038	310	311	9.91
18	8/22/79	12	0	0.03	10.41	0.062	310	332	8.97
18	10/23/79	13	30	0.06	9.11	0.075	276	278	8.08
19	3/16/79	16	53	0.0	6.41	0.044	324	328	14.98
19	3/17/79	15	45	0.0	4.09	0.097	271	274	11.67
19	3/18/79	12	15	0.10	4.17	0.350	221	242	9.46
19	3/19/79	12	0	0.02	3.21	0.184	146	149	19.22
19	3/20/79	11	30	0.0	7.42	0.020	291	314	12.78
19	3/23/79	5	28	0.0	7.55	0.032	209	450	11.09

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				----------	----------	PPM	----------	----------	----------
19	3/28/79	13	30	0.0	8.74	0.060	360	353	12.90
19	4/ 5/79	12	56	0.27	9.79	0.074	297	372	17.48
19	4/13/79	16	24	0.0	9.96	0.026	239	353	11.44
19	4/18/79	19	1	0.0	9.84	0.022	234	367	11.57
19	4/20/79	16	7	0.0	9.11	0.073	359	362	11.77
19	4/24/79	14	20	0.0	9.73	0.131	380	386	12.26
19	5/ 1/79	19	0	0.02	9.33	0.069	289	329	14.79
19	5/ 9/79	12	0	0.0	9.35	0.016	330	346	13.59
19	5/15/79	15	30	0.0	8.44	0.011	311	386	13.53
19	5/22/79	14	20	0.0	9.10	0.008	300	360	13.00
19	5/29/79	15	20	0.0	9.13	0.013	337	342	11.77
19	6/ 5/79	12	0	0.0	8.22	0.013	285	340	10.94
19	6/12/79	13	21	0.03	8.18	0.010	269	342	10.63
19	6/13/79	12	56	0.0	9.13	0.055	347	407	11.18
19	6/19/79	12	36	0.0	8.37	0.005	305	354	10.63
19	6/26/79	11	22	0.0	8.96	0.013	376	390	10.71
17	7/ 3/79	19	30	0.0	9.25	0.0	303	399	13.14
19	7/11/79	11	35	0.04	9.66	0.012	323	428	14.84
19	7/19/79	11	10	0.0	9.36	0.011	377	428	13.05
19	7/26/79	9	18	0.0	8.90	0.019	368	434	12.55
19	8/ 2/79	15	30	0.0	8.16	0.011	339	416	12.47
19	8/ 9/79	14	25	0.03	6.84	0.012	294	427	15.84
19	8/15/79	11	30	0.02	7.44	0.016	349	353	17.91
19	8/22/79	10	18	0.02	7.36	0.011	370	462	17.95
19	8/28/79	17	45	0.02	7.47	0.013	343	351	18.24
19	9/ 5/79	19	58	0.05	5.88	0.030	403	464	18.60
19	10/23/79	13	0	0.05	8.22	0.020	397	398	17.25
19	10/30/79	17	35	0.04	8.14	0.026	276	382	17.96
19	11/ 6/79	16	10	0.12	8.61	0.026	302	383	19.49
19	11/28/79	13	50	0.01	8.66	0.007	286	359	17.88
19	12/ 4/79	16	30	0.01	8.41	0.015	277	366	17.88
19	12/10/79	14	0	0.0	8.16	0.015	276	336	17.48
19	12/19/79	16	45	0.0	8.16	0.019	281	330	17.48
19	12/26/79	14	50	0.0	7.97	0.011	270	334	17.48

TABLE F3- 2. FOUR MILE CREEK WATERSHED TILE NUTRIENT CONCENTRATION DATA FOR 1980

TILE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
10	1/ 4/80	12	50	0.02	7.45	0.007	227	242	8.14
10	1/11/80	12	37	0.07	7.21	0.011	210	313	8.84
10	1/18/80	13	30	0.04	9.95	0.015	225	328	10.24
10	1/25/80	13	15	0.17	6.81	0.007	197	292	10.74
10	2/ 4/80	12	30	0.07	9.79	0.007	204	232	10.34
10	2/13/80	12	50	0.04	8.10	0.003	188	226	9.35
10	2/19/80	15	50	0.08	6.26	0.013	254	268	11.08
10	3/19/80	14	35	0.51	7.59	0.127	328	377	9.97
10	3/25/80	12	55	0.25	7.62	0.049	286	298	12.99
10	4/ 2/80	14	15	0.08	10.02	0.016	282	365	12.06
10	4/ 8/80	13	54	0.04	14.96	0.015	364	431	14.98
10	4/16/80	11	25	0.09	13.63	0.020	349	409	14.70
10	4/23/80	11	15	0.12	14.09	0.022	319	418	13.80
10	4/30/80	12	20	0.22	10.43	0.054	235	327	9.87
10	5/ 7/80	13	40	0.03	9.53	0.018	253	305	8.88
10	5/14/80	14	55	0.02	9.46	0.013	185	289	9.93
10	5/19/80	14	52	0.02	8.15	0.014	312	332	8.92
10	5/28/80	12	5	0.03	8.78	0.012	267	279	14.09
10	5/31/80	12	38	0.08	11.88	0.007	268	290	20.07
10	6/ 6/80	13	37	0.04	13.78	0.057	252	281	14.25
10	6/12/80	11	40	0.03	13.14	0.053	274	304	10.51
10	6/19/80	12	31	0.03	15.60	0.029	318	329	11.97
10	6/26/80	12	9	0.04	14.15	0.017	290	306	12.01
10	7/ 3/80	11	8	0.0	13.69	0.010	336	357	10.73
10	7/ 9/80	10	47	0.0	12.92	0.007	373	401	10.80
10	7/16/80	10	52	0.0	11.23	0.004	373	422	10.67
10	7/24/80	14	15	0.02	7.98	0.005	412	492	12.35
10	7/30/80	11	11	0.03	6.95	0.001	420	498	12.71
10	8/11/80	15	0	0.0	11.76	0.023	400	395	7.79
10	8/18/80	15	6	0.0	10.35	0.046	327	348	8.45
10	9/18/80	13	45	0.04	5.75	0.019	349	373	8.74
10	10/14/80	15	35	0.02	4.65	0.362	264	363	7.26
10	10/30/80	13	5	0.01	6.68	0.080	250	363	7.69
10	12/18/80	12	33	0.0	6.88	0.003	231	336	7.72
11	1/ 4/80	12	40	0.0	8.64	0.024	207	481	13.18
11	1/11/80	12	15	0.01	6.46	0.020	238	241	14.56
11	1/18/80	12	45	0.0	8.00	0.022	193	287	13.42
11	1/25/80	12	50	0.0	6.45	0.015	262	336	13.97
11	2/ 4/80	12	25	0.05	5.14	0.007	176	226	16.88
11	2/13/80	12	40	0.09	3.14	0.005	190	210	14.61
11	2/19/80	13	45	0.05	5.43	0.021	229	260	14.61
11	2/23/80	12	40	0.08	2.78	0.034	232	241	13.58
11	3/ 3/80	13	25	0.05	5.70	0.023	242	251	14.40
11	3/ 9/80	17	40	0.21	4.99	0.079	136	196	8.79
11	3/19/80	13	8	0.19	5.34	0.225	269	273	38.00
11	3/25/80	13	40	0.09	6.62	0.041	222	253	19.83
11	4/ 2/80	12	15	0.01	8.13	0.023	219	262	12.40
11	4/ 8/80	12	26	0.0	9.28	0.018	219	270	12.92
11	4/16/80	11	3	0.01	9.52	0.018	225	271	12.82
11	4/23/80	10	35	0.03	9.59	0.017	255	272	14.20
11	4/30/80	11	40	0.01	9.70	0.023	258	283	12.82
11	5/ 7/80	10	52	0.01	9.49	0.030	276	279	13.22
11	5/14/80	9	2	0.02	9.46	0.028	309	328	15.16
11	5/19/80	15	0	0.0	7.98	0.031	272	273	13.06
11	5/28/80	11	50	0.01	8.41	.022	191	244	12.01
11	5/31/80	11	14	0.01	10.44	0.024	256	268	12.74
11	6/ 6/80	13	31	0.0	11.64	0.028	231	246	12.63
11	6/12/80	11	33	0.0	10.86	0.041	230	237	12.85
11	6/19/80	12	20	0.0	10.81	0.038	218	226	12.96
11	6/26/80	11	58	0.01	10.37	0.045	211	275	13.08
11	7/ 3/80	11	2	0.02	9.45	0.024	307	348	12.33
11	7/ 9/80	10	35	0.02	9.00	0.040	357	384	12.33
11	7/16/80	10	40	0.02	8.17	0.024	359	356	12.33
11	7/24/80	14	2	0.02	8.39	0.031	330	333	12.52
11	7/30/80	10	6	0.0	8.79	0.013	324	365	12.35
11	8/ 5/80	10	33	0.0	10.06	0.052	378	398	13.07
11	8/11/80	14	50	0.0	5.93	0.069	350	354	11.11
11	8/18/80	13	40	0.0	6.04	0.026	129	277	11.14
11	9/ 4/80	18	10	0.05	2.68	0.064	353		10.74
11	9/18/80	11	30	0.04	4.98	0.050	394		11.09
11	9/30/80	14	0	0.01	5.49	0.276	281	382	11.33
11	10/14/80	16	50	0.02	5.52	0.212	275	363	11.20
11	10/30/80	13	0	0.04	5.52	0.015	264	298	11.30
11	11/18/80	11	20	0.00	5.77	0.013	251	258	11.14
11	12/18/80	12	28	0.02	5.77	0.023	276	294	11.25
12	1/ 4/80	12	40	0.0	8.96	0.022	258	279	21.88
12	1/11/80	12	15	0.11	8.30	0.044	231	368	21.71
12	1/18/80	12	45	0.17	8.92	0.030	258	389	23.21
12	1/25/80	12	50	0.05	8.86	0.033	266	355	23.12
12	2/ 4/80	12	25	0.04	10.09	0.022	231	281	23.32
12	2/13/80	12	40	0.03	6.14	0.011	267	302	29.09
12	2/19/80	13	45	0.03	2.56	0.027	301	333	21.66
12	2/23/80	12	40	0.49	1.36	0.511	247	329	19.32
12	3/ 3/80	13	25	0.03	9.14	0.028	319	343	23.53
10	3/ 9/80	17	40	0.22	4.97	0.099	196	240	20.49
12	3/19/80	13	9	0.23	4.83	0.162	336	417	24.58
12	3/25/80	13	40	0.08	8.07	0.149	366	454	36.54
12	4/ 2/80	12	15	0.01	8.06	0.031	349	381	26.23
12	4/ 8/80	12	25	0.01	10.40	0.018	320	352	26.81
12	4/16/80	11	3	0.01	12.21	0.021	366	438	30.64
12	4/23/80	10	35	0.01	10.81	0.023	348	411	29.78
12	4/30/80	11	40	0.01	10.44	0.026	341	382	25.38
12	5/ 7/80	10	52	0.01	10.03	0.033	325	338	23.71
12	5/14/80	9	3	0.02	10.29	0.026	336	352	24.89
12	5/19/80	15	0	0.02	8.87	0.034	356	374	22.82
12	5/28/80	12	0	0.01	9.65	0.018	295	320	23.56
12	5/31/80	11	12	0.01	12.66	0.019	331	347	21.56
12	6/ 6/80	13	32	0.0	16.13	0.022	298	304	23.17
12	6/12/80	11	34	0.0	15.65	0.020	261	274	21.90
12	6/19/80	12	21	0.03	15.32	0.050	286	298	21.18
12	6/26/80	11	59	0.01	14.27	0.029	204	354	21.56
12	7/ 3/80	11	2	0.0	13.19	0.017	365	425	19.25

TABLE F3- 2. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				ppm					
12	7/ 9/80	10	35	0.0	12.66	0.029	422	439	18.89
12	7/16/80	10	40	0.0	11.07	0.023	368	397	17.60
12	7/24/80	14	3	0.0	10.86	0.019	387	427	17.72
12	7/30/80	10	6	0.0	10.13	0.019	392	473	17.60
12	8/ 5/80	10	33	0.0	9.41	0.029	370	419	17.22
12	8/11/80	14	50	0.0	6.54	0.048	397	431	19.30
12	8/18/80	13	40	0.0	8.58	0.013	343	376	22.12
12	9/ 4/80	18	10	0.04	6.70	0.033	419	2051	19.28
12	9/18/80	11	0	0.04	13.08	0.046	478	2273	24.25
12	9/30/80	14	0	0.01	8.39	0.297	321	381	21.39
12	10/14/80	16	50	0.04	7.69	0.244	276	379	21.09
12	10/30/80	13	0	0.00	7.33	0.028	315	370	20.87
12	11/18/80	11	20	0.01	7.28	0.014	257	347	20.31
12	12/18/80	12	28	0.08	6.73	0.014	317	356	19.02
13	1/ 4/80	12	30	0.56	21.67	0.227	361	374	13.45
13	1/11/80	12	5	0.08	14.45	0.022	166	276	19.27
13	1/18/80	12	30	0.04	19.13	0.015	233	359	19.22
13	1/25/80	12	45	0.22	18.52	0.010	234	315	18.67
13	2/ 4/80	12	15	0.13	15.16	0.005	262	263	16.48
13	2/13/80	12	30	0.04	14.45	0.006	263	271	16.30
13	2/19/80	13	20	0.03	14.12	0.017	234	236	16.23
13	2/23/80	12	25	0.05	3.35	0.014	291	350	13.85
13	3/ 3/80	13	15	0.04	3.61	0.015	237	249	16.59
13	3/19/80	12	55	0.06	15.59	0.049	356	420	30.54
13	3/25/80	12	40	0.11	16.33	0.029	383	480	22.66
13	4/ 2/80	12	0	0.02	17.44	0.019	338	339	17.63
13	4/ 8/80	12	12	0.02	27.91	0.010	407	451	18.98
13	4/16/80	10	55	0.03	22.86	0.014	371	391	17.36
13	4/23/80	10	25	0.02	21.82	0.014	375	544	17.59
13	4/30/80	12	5	0.02	19.34	0.016	351	360	18.45
13	5/ 7/80	11	0	0.01	17.41	0.025	336	348	18.30
13	5/14/80	8	48	0.02	15.52	0.017	283	288	20.20
13	5/19/80	15	5	0.0	12.84	0.020	288	294	17.07
13	5/28/80	11	30	0.02	13.52	0.020	288	291	16.27
13	5/31/80	11	7	0.02	27.29	0.017	425	470	18.47
13	6/ 6/80	13	25	0.03	28.48	0.021	349	368	17.20
13	6/12/80	11	16	0.03	25.16	0.017	352	360	17.02
13	6/19/80	12	3	0.03	23.23	0.012	332	374	15.31
13	6/26/80	11	52	0.02	21.22	0.025	282	373	16.88
13	7/ 3/80	10	56	0.0	17.99	0.028	314	424	16.22
13	7/ 9/80	10	18	0.0	13.90	0.016	248	353	16.45
13	7/16/80	10	30	0.0	13.55	0.006	353	355	16.85
13	7/24/80	13	47	0.0	13.28	0.013	333	331	16.05
13	7/30/80	10	56	0.0	10.47	0.015	340	361	15.61
13	8/11/80	14	30	0.0	11.73	0.031	430	434	13.26
13	8/18/80	13	55	0.0	13.16	0.110	287	323	14.21
13	9/ 4/80	18	0	0.04	10.54	0.017	429	3501	5.81
13	9/18/80	11	0	0.04	8.99	0.044	443	3486	12.35
E14	1/ 4/80	12	30	0.0	10.60	0.052	360	448	17.58
W14	1/ 4/80	12	30	0.19	9.22	0.235	371	388	40.90

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				ppm					
E14	1/18/80	12	30	0.05	10.29	0.085	305	376	18.73
W14	1/18/80	12	30	0.04	6.88	0.158	285	340	21.28
E14	1/25/80	12	45	0.61	7.71	0.554	263	338	17.91
W14	1/25/80	12	45	0.03	6.72	0.155	253	325	21.33
E14	2/ 4/80	12	15	0.31	12.00	0.066	244	311	19.02
W14	2/ 4/80	12	15	0.51	1.40	0.056	336	338	44.64
E14	2/13/80	12	30	0.10	7.46	0.091	170	321	18.59
W14	2/13/80	12	30	0.16	7.81	0.089	363	373	22.49
E14	2/19/80	13	20	0.25	11.83	0.107	328	337	37.40
W14	2/19/80	13	20	0.25	7.81	0.055	312	360	21.10
E14	2/23/80	12	25	1.92	2.79	1.079	260	308	16.23
W14	2/23/80	12	25	2.31	1.67	0.686	233	373	15.97
E14	3/ 3/80	13	15	0.08	1.00	0.068	333	337	15.06
W14	3/ 3/80	13	15	0.22	7.00	0.089	397	398	38.17
E12	3/19/80	12	55	0.14	9.10	0.108	408	473	19.12
W14	3/19/80	12	55	0.06	4.99	0.214	340	485	21.50
14	3/25/80	12	35	0.22	8.35	0.123	412	506	22.96
W14	4/ 2/80	12	0	0.21	7.14	0.094	357	377	
E14	4/ 2/80	12	1	0.15	9.36	0.179	346	349	18.69
W14	4/ 8/80	12	14	0.39	8.21	0.124	345	355	28.95
E14	4/ 8/80	12	15	0.05	11.76	0.061	325	337	19.94
E14	4/16/80	10	55	0.16	12.14	0.083	31[illegible]	344	19.01
W14	4/16/80	10	55	0.21	8.29	0.074	33[illegible]	346	32.02
W14	4/23/80	10	20	0.24	8.29	0.119	386	420	
E14	4/23/80	10	25	0.08	12.69	0.068	311	352	19.01
E14	4/30/80	12	5	0.21	12.69	0.099	329	343	22.64
W14	4/30/80	12	10	0.13	8.39	0.090	374	406	36.07
E14	5/ 7/80	11	0	0.02	13.46	0.092	343	380	20.38
W14	5/ 7/80	11	0	0.14	8.57	0.151	370	386	31.38
E14	5/14/80	8	49	0.02	13.39	0.056	342	380	17.00
W14	5/14/80	8	50	0.20	8.56	0.157	307	429	67.77
E14	5/19/80	15	5	0.05	11.30	0.185	383	413	18.80
W14	5/19/80	15	5	0.17	7.26	0.145	410	421	43.94
E14	5/28/80	11	30	0.03	11.92	0.040	280	356	18.19
W14	5/28/80	11	30	0.16	8.23	0.267	420	451	79.96
E14	5/31/80	11	1	0.04	14.27	0.043	224	360	19.57
W14	5/31/80	11	1	0.12	8.25	0.132	293	340	32.25
E14	6/ 6/80	13	21	0.07	15.92	0.042	233	303	17.02
W14	6/ 6/80	13	22	0.03	8.30	0.054	286	290	18.39
W14	6/12/80	11	14	0.07	8.53	0.104	290	301	22.61
E14	6/12/80	11	15	0.03	16.25	0.041	324	350	16.83
W14	6/19/80	11	59	0.06	7.72	0.079	287	295	28.79
E14	6/19/80	12	1	0.03	15.83	0.062	301	307	16.38
E14	6/26/80	11	50	0.06	15.38	0.085	234	368	17.06
W14	6/26/80	11	50	0.08	9.11	0.168	284	332	33.03
E14	7/ 3/80	10	54	0.0	15.10	0.048	449	452	15.61
W14	7/ 3/80	10	54	0.16	8.39	0.246	435	438	57.31
E14	7/ 9/80	10	17	0.0	15.14	0.060	415	452	15.73
W14	7/ 9/80	10	17	0.31	8.75	0.395	481	509	64.44
E12	7/16/80	10	30	0.0	14.06	0.058	439	444	15.95
W14	7/16/80	10	30	0.11	8.13	0.350	471	513	70.62
E14	7/24/80	13	46	0.0	13.61	0.112	440	457	16.08

TABLE F3- 2. CONTINUED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				---PPM---					
W14	7/24/80	13	46	0.03	9.24	0.428	498	544	78.51
E14	7/30/80	10	55	0.0	12.72	0.079	404	486	18.28
W14	7/30/80	10	55	0.03	9.00	0.715	572	642	101.50
E14	8/ 5/80	9	30	0.0	10.62	0.377	461	481	17.50
W14	8/ 5/80	9	30	0.15	10.69	1.065	728	757	158.80
E14	8/11/80	14	30	0.53	6.27	0.775	419	483	17.12
W14	8/11/80	14	30	0.17	3.59	0.443	437	472	36.64
E14	8/18/80	14	0	0.05	7.17	0.123	326	371	17.26
W14	8/18/80	14	0	0.02	3.92	0.057	326	362	21.38
E14	9/ 4/80	18	0	0.13	5.86	0.757	530	2348	25.31
W14	9/ 4/80	18	0	0.33	3.75	1.170	492	2341	45.77
E14	9/18/80	11	0	0.05	7.15	0.279	511	2333	23.31
W14	9/18/80	11	0	0.33	6.50	0.679	755	2807	138.80
E14	9/30/80	13	50	0.04	8.60	1.187	437	440	27.21
W14	9/30/80	13	50	0.81	5.55	2.142	941	950	298.20
E14	10/14/80	16	58	0.03	10.52	1.391	386	433	27.65
W14	10/14/80	16	58	0.47	6.18	2.092	813	905	251.40
E14	10/30/80	12	50	0.03	9.04	0.143	361	447	23.88
W14	10/30/80	12	50	0.82	5.92	0.735	670	694	135.30
E14	11/18/80	11	25	0.01	9.49	0.125	401	424	25.92
W14	11/18/80	11	25	0.73	4.82	0.843	839	880	330.00
E14	12/18/80	12	18	0.04	7.88	0.133	390	432	20.08
W14	12/18/80	12	18	0.56	4.62	0.929	596	619	106.80
15	1/ 4/80	12	30	0.08	12.59	0.127	530	576	14.40
15	1/11/80	12	5	0.24	9.52	0.078	258	315	15.30
15	1/18/80	12	30	0.0	11.31	0.059	276	360	14.23
15	1/25/80	12	45	0.02	11.27	0.040	230	295	14.19
15	2/ 4/80	12	15	0.05	1.13	0.017	295	332	13.81
15	2/13/80	12	30	0.02	4.46	0.068	332	362	14.01
15	2/19/80	13	20	0.02	9.55	0.069	322	346	14.95
15	2/23/80	12	25	0.26	8.95	0.134	322	425	13.55
15	3/ 3/80	13	15	0.03	10.00	0.071	326	328	13.82
15	3/19/80	12	55	0.09	9.49	0.090	431	474	15.47
15	3/25/80	12	35	0.10	9.70	0.090	407	489	15.82
15	4/ 2/80	12	4	0.01	11.14	0.070	299	332	13.90
15	4/ 8/80	12	13	0.06	12.93	0.048	302	330	19.51
15	4/16/80	10	55	0.02	13.19	.056	332	340	17.65
15	4/23/80	12	0	0.02	12.72	0.060	312	333	15.93
15	4/30/80	12	10	0.01	12.40	0.076	319	358	15.61
15	5/ 7/80	11	0	0.0	12.40	0.081	326	347	14.16
15	5/14/80	8	51	0.02	12.21	0.085	310	326	12.16
15	5/19/80	15	5	0.05	10.41	0.096	353	407	13.53
15	5/28/80	11	30	0.03	11.29	0.086	359	512	13.72
15	5/31/80	11	3	0.01	11.27	0.068	399	1137	14.46
15	6/ 6/80	13	23	0.03	12.61	0.067	363	696	13.50
15	6/12/80	11	13	0.0	12.69	0.059	315	329	12.69
15	6/19/80	12	3	0.0	11.65	0.060	329	350	12.42
15	6/26/80	11	51	0.0	13.49	0.068	295	338	14.23
15	7/ 3/80	10	52	0.0	13.81	0.059	418	448	13.07
15	7/ 9/80	10	15	0.0	13.81	0.019	404		18.39
15	7/16/80	10	28	0.0	12.76	0.051	435	429	12.93

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				---PPM---					
15	7/24/80	13	45	0.05	12.76	0.037	424	437	14.88
15	7/30/80	10	55	0.0	12.87	0.036	346	407	12.64
15	8/11/80	14	30	0.0	4.62	0.139	466	492	11.20
15	8/18/80	13	55		7.41	0.050	357	360	12.45
15	9/ 4/80	18	0	0.05	2.55	0.066		2458	11.52
15	9/18/80	11	0	0.04	4.42	0.125	367	365	12.62
15	10/30/80	12	50	0.03	4.47	0.105	336	443	12.50
15	11/18/80	11	25	0.03	3.97	0.072	300	428	11.82
15	12/18/80	12	20	0.01	4.92	0.098	343	389	11.73
16	1/ 4/80	12	15	0.01	18.84	0.016	355	435	26.87
16	1/11/80	12	0	0.13	17.79	0.353	490	513	29.20
16	1/18/80	12	15	0.05	14.79	0.081	444	485	27.91
16	1/25/80	12	30	0.02	16.99	0.140	402	415	27.24
16	2/ 4/80	12	5	0.02	16.23	0.003	323	420	24.71
16	2/13/80	12	0	0.02	2.40	0.003	322	426	25.38
16	2/19/80	12	40	0.02	4.82	0.024	387	480	27.67
16	2/23/80	12	10	1.92	11.86	1.121	375	425	24.37
16	3/ 3/80	12	52	0.02	5.13	0.054	442	450	23.78
16	3/ 9/80	14	0	0.20	13.12	0.112	467	596	23.70
16	3/19/80	12	35	0.37	11.77	0.291	492	557	24.30
16	3/25/80	12	15	0.10	17.24	0.083	528	608	27.04
16	4/ 2/80	11	30	0.02	18.93	0.046	385	466	31.38
14	4/ 8/80	11	52	0.02	20.43	0.024	386	465	31.76
16	4/16/80	10	27	0.02	21.01	0.020	391	480	28.31
16	4/23/80	10	10	0.12	22.10	0.018	415	461	33.49
16	4/30/80	11	3	0.03	22.03	0.028	423	798	31.69
16	5/ 7/80	11	20	0.01	21.52	0.048	434	436	34.21
16	5/14/80	8	26	0.03	22.12	0.031	430	444	25.33
16	5/19/80	15	50	0.0	19.53	0.045	477	504	27.90
16	5/28/80	10	50	0.0	19.16	0.025	369	416	26.15
16	5/31/80	10	38	0.01	22.59	0.027	383	462	25.25
16	6/ 6/80	13	5	0.0	25.61	0.027	400	408	24.77
16	6/12/80	11	2	0.0	25.18	0.023	395	397	24.39
16	6/19/80	11	32	0.0	24.78	0.017	390	396	25.91
16	6/26/80	11	39	0.01	22.59	0.017	354	469	24.80
16	7/ 3/80	10	42	0.02	21.24	0.044	441	468	23.86
16	7/ 9/80	9	45	0.0	21.67	0.036	412	469	22.47
16	7/16/80	9	50	0.0	22.24	0.033	560	654	23.00
16	7/24/80	13	23	0.0	23.65	0.028	565	616	23.54
16	7/30/80	10	30	0.0	26.23	0.012	436	468	25.36
16	8/11/80	14	0	0.02	23.80	0.346	635	687	26.98
16	8/18/80	14	25	0.0	22.68	0.029	467	563	27.45
17	1/ 4/80	12	15	0.10	15.29	0.018	319	354	21.30
17	1/11/80	12	0	1.42	13.89	0.729	382	400	23.23
17	1/18/80	12	15	0.16	14.66	0.037	328	345	21.43
17	1/25/80	12	30	0.61	12.03	0.665	355	494	19.06
17	2/ 4/80	12	5	0.02	13.90	0.007	269	314	19.84
17	2/13/80	12	0	0.02	9.20	0.022	334	360	20.62
17	2/19/80	12	40	0.02	3.77	0.015	346	403	17.75
17	2/23/80	12	10	2.03	1.61	1.553	285	315	16.59

TABLE F3- 2. CONCLUDED

SITE	DATE	HOUR	MIN	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
				PPM					
17	3/ 3/80	12	52	0.02	13.20	0.035	382	415	19.49
17	3/ 9/80	14	0	0.31	9.10	0.176	429	3236	21.45
17	3/19/80	12	35	0.12	9.51	0.088	361	430	18.58
17	3/25/80	12	20	0.0	12.19	0.024	420	438	20.59
17	4/ 2/80	11	32	0.11	13.86	0.029	299	338	23.67
17	4/ 8/80	11	53	0.02	15.50	0.017	321	387	22.11
17	4/16/80	10	28	0.19	16.46	0.021	325	378	23.07
17	4/23/80	10	10	0.04	18.90	0.024	391	444	25.97
17	4/30/80	11	3	0.06	15.68	0.045	320	835	22.54
17	5/ 7/80	11	20	0.17	12.76	0.044	344	819	22.64
17	5/14/80	8	27	0.03	13.77	0.026	333	373	19.13
17	5/19/80	15	50	0.06	12.20	0.032	400	403	21.43
17	5/28/80	10	50	0.04	13.21	0.025	368	418	22.61
17	5/31/80	10	35	0.25	7.80	0.200	301	38	11.31
17	6/ 6/80	13	8	0.04	18.85	0.023	394	521	18.82
17	6/12/80	10	58	0.0	19.14	0.022	426	491	19.82
17	6/19/80	11	30	0.0	19.77	0.020	450	457	19.76
17	6/26/80	11	38	0.01	16.18	0.026	313	376	19.48
17	7/ 3/80	10	44	0.0	14.52	0.015	420	481	18.89
17	7/ 9/80	9	47	0.0	14.18	0.006	431	459	18.84
17	7/16/80	9	50	0.0	13.35	0.009	407	491	18.86
17	7/24/80	13	24	0.0	12.30	0.019	452	488	19.47
17	7/30/80	10	30	0.0	11.69	0.021	407	507	19.79
17	8/ 5/80	8	50	0.0	10.76	0.044	505	554	21.85
17	8/11/80	14	0	0.0	7.08	0.142	333	494	19.79
17	8/18/80	14	25	0.0	8.98	0.009	418	470	23.89
18	6/20/80	10	45	0.0	7.89	0.029	163	253	11.65
18	7/ 3/80	10	32	0.0	9.15	0.016	349	360	11.65
19	1/ 4/80	12	45	0.0	7.92	0.031	277	357	16.59
19	1/11/80	12	25	0.01	8.14	0.007	292	344	17.22
19	1/18/80	13	20	0.03	8.17	0.020	340	341	17.74
19	2/ 4/80	14	0	0.04	8.26	0.007	255	325	16.88
19	2/19/80	14	15	0.04	8.40	0.017	312	382	17.38
19	2/22/80	14	40	0.04	6.91	0.018	282	383	15.78
19	3/ 3/80	14	15	0.02	6.83	0.013	344	373	16.30
19	3/ 9/80	14	54	0.02	7.83	0.013	375	433	17.92
19	3/19/80	13	57	0.01	7.83	0.010	385	434	17.85
19	3/25/80	14	5	0.0	7.62	0.010	400	415	17.48
19	4/ 2/80	14	0	0.05	8.95	0.016	302	353	19.13
19	4/ 8/80	13	38	0.04	9.14	0.013	318	378	18.74
19	4/23/80	10	50	0.11	8.53	0.015	314	377	20.49
19	4/30/80	11	13	0.01	8.66	0.014	323	360	22.45
19	5/ 7/80	15	0	0.02	8.54	0.022	353	354	18.07
19	5/14/80	11	15	0.02	8.17	0.014	314	357	14.72
19	5/19/80	13	40	0.02	7.05	0.014	273	377	16.33
19	5/28/80	14	30	0.0	7.92	0.005	325	350	15.97
19	6/20/80	10	30	0.0	7.81	0.012	311	400	14.86
19	6/26/80	12	20	0.0	8.57	0.010	350	374	16.23
19	7/ 3/80	10	30	0.0	8.27	0.010	304	440	14.65
19	7/ 9/80	11	53	0.0	8.49	0.016	321	473	14.85
19	7/16/80	11	50	0.02	9.58	0.012	341	457	15.73

TABLE F4- 1. FOUR MILE CREEK WATERSHED PRECIPITATION NUTRIENT CONCENTRATION DATA FOR 1979

GAGE	DATE	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
		ppm					
30	1/ 1/79	0.88	2.88				4.48
30	1/11/79	0.69	1.31	0.059			9.40
30	1/13/79	0.17	0.44	0.024			3.41
30	1/18/79	1.01	2.86				1.39
30	1/19/79	0.72	1.24	0.032	27	32	1.07
30	1/20/79	1.89	3.58				8.59
30	1/23/79	0.47	1.13	0.031	43	51	1.39
30	1/26/79	0.42	1.00	0.030	8	36	0.52
30	2/ 7/79	0.92	1.49	0.062	16	55	0.92
30	2/20/79	2.68	6.42	0.057	68	86	3.72
30	3/ 3/79	1.03	1.09	0.048	6	15	0.54
30	3/ 4/79	0.65	0.79	0.084	20	56	0.57
30	3/17/79	2.05	2.39	0.146			2.76
30	3/18/79	1.22	0.79	0.052	12	58	1.37
30	3/23/79	1.43	1.63	0.043			0.94
30	3/24/79	0.85	0.62	0.025		14	0.42
30	3/29/79	1.14	1.02	0.085	4	44	1.56
30	3/30/79	1.01	0.48	0.075	13	31	7.15
30	4/ 1/79	0.36	5.93	0.044			9.24
30	4/ 2/79	0.72	1.43	0.061		21	3.26
30	4/12/79	2.72	3.07	0.157			3.01
30	4/19/79	0.45	0.50	0.051			
30	4/20/79	0.44	0.48	0.173		16	5.65
30	4/25/79	0.57	0.36	0.077		16	2.40
30	5/ 2/79	0.38	0.34	0.016			0.34
30	5/ 8/79	1.42	1.21	0.035			0.72
30	5/11/79	0.95	0.61	0.026			0.10
30	5/26/79	0.90	0.86	0.025	24	29	0.12
30	5/29/79	1.45	0.90	0.019	27	32	0.10
30	6/ 4/79	1.96	0.94	0.026		5	1.65
30	6/12/79	0.61	0.33	0.026			0.32
30	7/ 3/79	0.26	0.16	0.002	7	20	0.07
30	7/14/79	0.50	0.51	0.036			0.36
30	8/19/79	0.32	0.39	0.026	7	50	0.10
30	8/21/79	0.32	0.30	0.016		15	4.29
30	8/28/79	0.11	0.46	0.174	23	25	4.35
30	9/ 5/79	0.09	0.03	0.007	3	7	6.83
30	9/24/79	0.20	0.61	0.0	68	70	1.05
30	10/ 1/79	0.09	0.04	0.002	66	93	1.34
30	10/22/79	0.07	0.01	0.013		3	
30	11/ 6/79	0.58	0.67	0.008		28	1.44
30	11/20/79	1.09	0.99	0.036			0.98
30	12/22/79	0.98	0.55	0.068			0.92

TABLE F4- 2. FOUR MILE CREEK WATERSHED PRECIPITATION NUTRIENT CONCENTRATION DATA FOR 1980

GAGE	DATE	NH4-N	NO3-N	PO4-P	TDS	TDS+SEDT	CL-
		PPM					
30	1/ 4/80	2.16	0.92	0.060	30	87	0.89
30	1/ 6/80	1.42	0.88	0.022			3.32
30	1/ 8/80	0.79	0.24	0.062			3.74
30	1/ 9/80	0.98	0.40	0.061			3.16
30	1/15/80	0.78	0.46	0.021	0	18	1.06
30	1/19/80	1.79	1.17	0.049			2.11
30	1/23/80	0.60	0.25	0.058			0.72
30	1/29/80	1.17	0.21				0.92
30	1/30/80	1.07	0.78	0.099			3.70
30	2/ 4/80	0.61	1.04	0.038			0.68
30	2/ 5/80	0.80	1.32	0.044			1.58
30	2/15/80	1.93	2.22	0.148			3.52
30	2/21/80	2.20	1.80	0.078			1.66
30	2/24/80	0.82	0.22	0.039			0.63
30	2/25/80	0.78	0.25	0.054			0.95
30	2/26/80	3.41	2.00				2.74
30	3/ 4/80	0.56	0.42	0.037	0	13	1.02
30	3/12/80	1.23	0.81	0.080			8.78
30	3/13/80	0.94	0.97	0.089			1.36
30	3/31/80	2.37	2.03	0.061			0.94
30	4/ 1/80	1.68	1.27	0.043	9	93	0.57
30	4/ 3/80	1.35	1.04	0.013	0	10	0.46
30	4/ 6/80	1.32	1.69	0.022	9	82	0.69
30	4/ 9/80	0.69	1.15	0.025			1.28
30	5/19/80	4.39	0.10	0.107	36	57	1.69
30	5/28/80	0.92	3.21	0.052			0.76
30	5/30/80	0.58	0.34	0.022	20	43	0.46
30	6/ 1/80	0.53	0.60	0.034	17	57	2.40
30	6/ 2/80	0.46	0.52	0.060	0	14	0.42
30	6/ 4/80	0.50	1.37	0.098			1.83
30	6/ 7/80	0.53	0.63	0.049	0	16	0.44
30	6/13/80	0.71	0.75	0.036	0	0	2.10
30	6/15/80	0.55	0.37	0.025	4	29	0.56
30	7/ 9/80	0.65	0.81	0.039			0.47
30	7/16/80	0.40	5.18	0.055	0	99	2.24
30	7/26/80	0.76	0.68	0.022	14	69	0.53
30	8/ 5/80	0.39	2.29	0.295			2.26
30	8/ 6/80	0.22	0.16	0.013	13	19	0.48
30	8/ 9/80	0.86	0.63	0.009	19	27	0.61
30	8/11/80	1.01	0.16	0.012	9	31	0.28
30	8/16/80	0.56	0.14	0.036	0	0	0.28
30	8/17/80	1.07	1.16	0.017	25	51	0.53
30	8/19/80	0.34	0.49	0.150	45	80	0.87
30	8/30/80	1.25	3.22	0.052			2.19
30	8/31/80	1.01	1.12	0.196	49		0.47
30	9/ 1/80	0.64	0.35	0.043	4	10	0.23
30	9/ 4/80	0.39	0.34	0.006	22	96	0.23
30	9/ 6/80	0.59	0.33	0.017	25	96	0.23
30	9/ 9/80	3.22	0.82	0.077	39	67	1.25
30	9/13/80	0.67	0.62	0.091	17	37	0.47
30	9/20/80	0.76	1.36	0.301			2.40
30	9/22/80	0.79	0.70	0.227	16	65	0.49
30	10/17/80	0.66	1.29	0.085			0.61
30	10/24/80	0.31	0.38	0.037	11	80	0.07
30	11/13/80	0.88	1.26	0.090			0.50
30	12/ 8/80	0.87	1.20	0.080			0.94
30	12/24/80	0.85	1.03	0.058			0.31

APPENDIX G

PESTICIDE MEASUREMENTS

TABLE G1- 1. FOUR MILE CREEK WATERSHED HERBICIDE MEASUREMENTS IN VOLUME SOIL SAMPLES FOR 1979 SITE 1 -- CORN

SITE	DATE	LOC	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
1	5/ 8/79	1	2060	13.9	5.81	2.83	6.54	3.19
1	5/ 8/79	2	2104	12.3	7.81	3.97	9.28	4.62
1	5/ 8/79	3	2163	16.3	3.38	1.73	4.54	2.32
1	5/ 8/79	3A	2340	15.8	4.34	2.40	5.32	2.94
1	5/ 8/79	4	1840	15.6	6.04	2.63	7.04	3.06
1	5/ 8/79	5	2238	17.3	3.93	2.08	4.81	2.55
1	5/ 8/79	6	2141	19.6	4.87	2.47	5.87	2.97
1	5/ 8/79	7	2343	17.9	3.24	1.80	4.29	2.38
1	5/ 8/79	8	2081	17.1	5.25	2.58	6.21	3.06
1	5/ 8/79	9	2063	19.1	4.91	2.39	5.89	2.87
1	5/ 8/79	10	2304	19.3	3.74	2.04	4.69	2.56
1	5/ 8/79	11	1976	16.7	6.97	3.26	8.70	4.06
		MEAN				2.52		3.05
		STANDARD DEVIATION				0.63		0.68
1	5/ 9/79	1	1547	10.8	6.70	2.45	8.08	2.96
1	5/ 9/79	2	1822	13.5	8.81	3.79	10.50	4.52
1	5/ 9/79	3	2163	12.6	3.64	1.86	4.56	2.33
1	5/ 9/79	4	1531	13.8	7.32	2.65	9.46	3.43
1	5/ 9/79	5	2123	15.7	3.42	1.72	4.98	2.50
1	5/ 9/79	6	1763	16.5	4.87	2.03	6.47	2.70
1	5/ 9/79	7	2064	15.9	2.60	1.27	3.61	1.76
1	5/ 9/79	8	1282	15.0	7.21	2.19	9.53	2.89
1	5/ 9/79	9	1693	15.0	6.60	2.64	8.48	3.39
1	5/ 9/79	10	1740	14.3	4.73	1.95	6.24	2.57
1	5/ 9/79	11	1670	15.1				
1	5/ 9/79	11A	1932	15.8	5.83	2.66	7.98	3.65
		MEAN				2.29		2.97
		STANDARD DEVIATION				0.67		0.75
1	5/10/79	1	2195	17.2	3.06	1.59	3.99	2.07
1	5/10/79	2	2280	15.5	5.82	3.14	7.74	4.17
1	5/10/79	3	2406	16.1	2.80	1.59	4.12	2.35
1	5/10/79	4	2268	15.0	5.39	2.89	7.73	4.14
1	5/10/79	5	2995	15.7	2.41	1.70	3.89	2.76
1	5/10/79	5A	2885	14.6	3.50	2.39	4.49	3.06
1	5/10/79	6	2465	16.9	2.63	1.53	3.93	2.29
1	5/10/79	7	2430	17.6	1.41	0.81	2.78	1.60
1	5/10/79	8	2584	16.8	2.57	1.57	4.61	2.82
1	5/10/79	9	1728	18.2	4.43	1.81	6.37	2.60
1	5/10/79	10	2976	14.4	2.29	1.61	3.53	2.48
1	5/10/79	11	2939	19.2	3.96	2.75	6.20	4.31
		MEAN				1.95		2.89
		STANDARD DEVIATION				0.69		0.88
1	5/11/79	1	3285	16.5	2.75	2.13	3.89	3.02
1	5/11/79	2	2922	17.9	3.19	2.20	4.75	3.28
1	5/11/79	3	2762	22.0	2.63	1.72	3.93	2.57
1	5/11/79	4	1981	22.6	4.90	2.30		
1	5/11/79	5	2745	22.6	3.37	2.19	5.13	3.33
1	5/11/79	6	2803	25.3	2.82	1.87	4.35	2.89
1	5/11/79	6A	3090	24.2	2.65	1.94	3.96	2.89
1	5/11/79	7	2844	22.3	1.65	1.11	2.69	1.81
1	5/11/79	8	2585	23.9	2.32	1.42	3.88	2.37
1	5/11/79	9	2313	25.1	3.36	1.84	5.18	2.83
1	5/11/79	10	2227	23.5	3.27	1.72	5.05	2.66
1	5/11/79	11	2072	23.1	5.36	2.63	8.26	4.05
		MEAN				1.92		2.88
		STANDARD DEVIATION				0.41		0.57
1	5/13/79	1	2383	12.5	3.61	2.03	5.19	2.93
1	5/13/79	2	1932	13.3	4.20	1.92	6.04	2.76
1	5/13/79	3	2113	16.1	4.15	2.07	6.14	3.07
1	5/13/79	4	2286	17.0	3.98	2.15	5.97	3.23
1	5/13/79	5	2213	16.6	3.64	1.91	5.36	2.80
1	5/13/79	6	1880	20.2	3.13	1.39	5.44	2.42
1	5/13/79	7	2113	17.3	2.45	1.22	4.19	2.09
1	5/13/79	7A	1514	16.0	3.09	1.11	5.09	1.82
1	5/13/79	8	2079	18.1	3.58	1.76	5.66	2.78
1	5/13/79	9	1588	18.9	4.16	1.56	6.83	2.56
1	5/13/79	10	1863	14.3	3.18	1.40	5.16	2.27
1	5/13/79	11	1750	17.6	5.17	2.14	8.57	3.55
		MEAN				1.72		2.69
		STANDARD DEVIATION				0.37		0.49
1	5/15/79	1	3213	14.3	2.55	1.94	4.16	3.16
1	5/15/79	2	2731	13.2	2.85	1.84	5.44	3.51
1	5/15/79	3	2610	16.9	2.36	1.46	4.30	2.65
1	5/15/79	4	2324	19.5	3.06	1.68	5.53	3.04
1	5/15/79	5	2756	14.7			3.92	2.56
1	5/15/79	6	2860	19.5	2.68	1.81	5.21	3.53
1	5/15/79	7	2335	19.7			3.42	1.89
1	5/15/79	8	2716	18.7	5.01	3.22	3.24	2.08
1	5/15/79	8A	2963	18.6	6.50	4.55	2.97	2.08
1	5/15/79	9	2293	19.6			5.05	2.74
1	5/13/79	10	2415	18.4	11.41	6.52	4.34	2.48
1	5/15/79	11	2371	19.3			6.74	3.78
		MEAN				2.88		2.79
		STANDARD DEVIATION				1.80		0.62

TABLE G1- 1. CONCLUDED

SITE	DATE	LOC	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
1	5/18/79	1	3259	13.0	2.39	1.84	3.89	2.99
1	5/18/79	2	1907	12.4	2.87	1.29	4.57	2.06
1	5/18/79	3	2569	18.2	1.91	1.16	3.41	2.07
1	5/18/79	4	2697	16.5	3.44	2.19	5.38	3.43
1	5/18/79	5	2564	17.6	2.96	1.80	4.98	3.02
1	5/18/79	6	2612	17.8	3.06	1.89	4.60	2.84
1	5/18/79	7	2553	16.4				
1	5/18/79	8	2553	15.8	1.77	1.07		
1	5/18/79	9	2707	18.1	2.24	1.44		
1	5/18/79	9A	2866	15.6	2.22	1.50	4.35	2.94
1	5/18/79	10	2369	15.2	2.04	1.14	4.10	2.30
1	5/18/79	11	2523	16.5	2.59	1.54	5.01	2.99
	MEAN					1.53		2.74
	STANDARD DEVIATION					0.36		0.48

TABLE G1- 2. FOUR MILE CREEK WATERSHED HERBICIDE MEASUREMENTS IN VOLUME SOIL SAMPLES FOR 1979 SITE 2 -- SOYBEANS

SITE	DATE	LOC	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
2	5/21/79	1	1721	13.3	1.90	0.77	6.02	2.45
2	5/21/79	1A	1599	12.3	1.90	0.72	6.37	2.41
2	5/21/79	2	2111	14.4	1.70	0.85	5.61	2.80
2	5/21/79	3	1423	15.2	1.43	0.48	7.18	2.42
2	5/21/79	4	1947	10.9	1.32	0.61	4.72	2.18
2	5/21/79	5	1815	14.5	1.29	0.55	5.12	2.20
2	5/21/79	6	2486	12.4	1.31	0.77	4.56	2.68
2	5/21/79	7	2125	16.4	1.19	0.60	3.99	2.01
2	5/21/79	8	1844	14.1	1.81	0.79	6.64	2.89
2	5/21/79	9	2125	11.0	1.22	0.61	4.25	2.14
2	5/21/79	10	2189	13.9	1.71	0.88	5.85	3.03
2	5/21/79	11	1642	10.6	2.07	0.80	7.11	2.76
	MEAN					0.70		2.50
	STANDARD DEVIATION					0.13		0.33
2	5/22/79	1	2021	11.5	1.17	0.56	4.19	2.00
2	5/22/79	2	1486	8.7	0.54	0.19	3.79	1.33
2	5/22/79	3	1367	9.6	1.84	0.60	7.23	2.34
2	5/22/79	4	1647	9.0	1.54	0.60	5.94	2.31
2	5/22/79	5	1935	13.8	1.63	0.74	6.61	3.02
2	5/22/79	6	2151	8.1	1.12	0.57	4.68	2.38
2	5/22/79	7	2514	17.6	0.95	0.57	3.29	1.96
2	5/22/79	8	1936	13.7	1.30	0.60	5.43	2.49
2	5/22/79	9	1608	9.9	1.36	0.52	5.60	2.13
2	5/22/79	10	1762	7.9	1.06	0.44	4.36	1.82
2	5/22/79	11	2648	12.6	1.06	0.66	4.19	2.62
2	5/22/79	11A	2012	9.9	1.21	0.58	5.01	2.38
	MEAN					0.55		2.23
	STANDARD DEVIATION					0.13		0.43
2	5/23/79	1	2413	11.7	1.11	0.64	3.85	2.20
2	5/23/79	2	2384	14.8	1.09	0.58	3.76	2.12
2	5/23/79	3	2315	13.1	1.36	0.74	4.75	2.60
2	5/23/79	3A	2522	16.1	1.18	0.71	4.35	2.59
2	5/23/79	4	2312	13.3	1.30	0.71	4.68	2.56
2	5/23/79	5	2577	15.7	1.12	0.68	3.77	2.30
2	5/23/79	6	2545	13.4	1.10	0.66	3.75	2.25
2	5/23/79	7	2534	16.4	0.87	0.52	3.35	2.01
2	5/23/79	8	2344	13.4	1.16	0.64	4.07	2.26
2	5/23/79	9	2670	13.1	0.87	0.53	3.52	2.22
2	5/23/79	10	2606	15.0	0.97	0.60	3.65	2.25
2	5/23/79	11	2748	16.3	0.98	0.64	3.54	2.30
	MEAN					0.64		2.31
	STANDARD DEVIATION					0.07		0.19
2	5/25/79	1	1720	9.1	0.33	0.13	2.02	0.82
2	5/25/79	2	2241	10.1	1.08	0.57	3.52	1.87
2	5/25/79	3	2002	10.0	1.40	0.66	4.82	2.28
2	5/25/79	4	1606	10.9	1.57	0.60	5.58	2.12
2	5/25/79	4A	1807	12.9	1.57	0.67	5.39	2.30
2	5/25/79	5	1703	11.3	1.87	0.75		
2	5/25/79	6	2017	11.9	1.17	0.56	4.00	1.91
2	5/25/79	7	1842	13.0	1.24	0.54	5.83	2.54
2	5/25/79	8	2119	13.1	0.93	0.47	2.99	1.50
2	5/25/79	9	1793	12.3	1.37	0.58	4.67	1.98
2	5/25/79	10	2570	16.7	0.97	0.59	3.06	1.86
2	5/25/79	11	1737	13.6	1.48	0.61	5.26	2.16
	MEAN					0.56		1.94
	STANDARD DEVIATION					0.15		0.46
2	5/27/79	1	2827	18.4	0.75	0.50	2.42	1.62
2	5/27/79	2	2494	13.1	0.77	0.46	2.80	1.65
2	5/27/79	3	2414	19.3	0.79	0.45	2.60	1.49
2	5/27/79	4	2175	16.2	1.17	0.60	4.30	2.21
2	5/27/79	5	2753	18.9	1.19	0.77	4.03	2.62
2	5/27/79	5A	2733	18.7	0.90	0.58	3.10	2.01
2	5/27/79	6	2858	13.1	0.84	0.57	3.06	2.07
2	5/27/79	7	2364	19.7	0.72	0.40	2.64	1.48
2	5/27/79	8	3042	18.1	0.83	0.59	2.71	1.95
2	5/27/79	9	2407	25.3	0.86	0.49	3.05	1.74
2	5/27/79	10	2511	14.8	0.68	0.40	2.50	1.48
2	5/27/79	11	2544	16.9	0.83	0.50	2.81	1.69
	MEAN					0.53		1.83
	STANDARD DEVIATION					0.10		0.35
2	5/30/79	1	2600	20.1	1.10	0.68	3.39	2.08
2	5/30/79	2	2595	17.3	1.17	0.72	4.03	2.47
2	5/30/79	3	2657	21.1	1.21	0.76	3.68	2.31
2	5/30/79	4	2417	20.1	1.25	0.71	4.08	2.33
2	5/30/79	5	3131	18.3	0.99	0.73	2.89	2.14
2	5/30/79	6	3029	17.1	0.88	0.63	3.05	2.19
2	5/30/79	6A	3118	15.1	0.92	0.68	3.42	2.52
2	5/30/79	7	2860	20.5	0.66	0.45	2.19	1.48
2	5/30/79	8	3005	19.9	0.93	0.66	2.87	2.04
2	5/30/79	9	2622	16.2	0.84	0.52	2.63	1.63
2	5/30/79	10	2266	27.3	0.84	0.45	2.97	1.59
2	5/30/79	11	3134	18.4	0.77	0.57	2.42	1.79
	MEAN					0.63		2.05
	STANDARD DEVIATION					0.11		0.35

TABLE G1- 2. CONCLUDED

SITE	DATE	LOC	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
2	6/ 4/79	1	2937	18.4	0.61	0.43	1.96	1.36
2	6/ 4/79	2	2836	14.7	0.84	0.56	3.20	2.15
2	6/ 4/79	3	2590	15.8	0.58	0.35	1.91	1.17
2	6/ 4/79	4	2516	15.1	0.72	0.43	2.60	1.55
2	6/ 4/79	5	3114	15.7	0.81	0.60	2.71	1.99
2	6/ 4/79	6	2787	14.5	0.67	0.44	2.47	1.63
2	6/ 4/79	7	2976	18.8	0.48	0.34	1.64	1.16
2	6/ 4/79	7A	3158	16.8	0.40	0.30	1.46	1.09
2	6/ 4/79	8	2773	14.2	0.65	0.42	2.28	1.49
2	6/ 4/79	9	2688	13.2	0.59	0.37	2.20	1.40
2	6/ 4/79	10	3072	10.2	0.41	0.30	1.60	1.16
2	6/ 4/79	11	3162	15.5	0.54	0.40	1.86	1.39
	MEAN					0.41		1.46
	STANDARD DEVIATION					0.09		0.33

TABLE G1- 3. FOUR MILE CREEK WATERSHED HERBICIDE MEASUREMENTS IN VOLUME SOIL SAMPLES FOR 1980 SITE 1 -- SOYBEANS

SITE	DATE	LOC	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
1	5/23/80	1	2382	16.5	0.70	0.39	1.82	1.02
1	5/23/80	1A	1623	15.6	0.90	0.35	2.62	1.01
1	5/23/80	2	1869	19.9	0.62	0.27	1.18	0.52
1	5/23/80	3	1945	21.0	0.92	0.42	2.46	1.13
1	5/23/80	4	1758	21.0	0.70	0.29	1.34	0.56
1	5/23/80	5	1964	22.2	0.75	0.35	1.54	0.72
1	5/23/80	6	2106	20.2	0.88	0.44	2.44	1.22
1	5/23/80	7	2098	18.7	1.00	0.50	3.03	1.50
1	5/23/80	8	2192	19.1	0.74	0.38	2.16	1.12
1	5/23/80	9	2275	18.3	0.66	0.36	1.60	0.86
1	5/23/80	10	1934	17.3	0.86	0.39	2.24	1.02
1	5/23/80	11	2037	17.7	0.85	0.41	2.64	1.27
	MEAN					0.38		1.00
	STANDARD DEVIATION					0.06		0.29
1	5/26/80	1	2011	11.1	0.67	0.32	2.75	1.31
1	5/26/80	2	2078	15.4	0.50	0.24	2.01	0.99
1	5/26/80	2A	2363	14.2	0.54	0.30	2.08	1.16
1	5/26/80	3	2133	13.4	0.45	0.23	1.93	0.97
1	5/26/80	4	1650	12.1	0.73	0.28	3.31	1.29
1	5/26/80	5	2453	17.9	0.48	0.28	1.72	1.00
1	5/26/80	6	2893	12.6	0.50	0.34	2.21	1.51
1	5/26/80	7	2386	18.3				
1	5/26/80	8	2247	17.9	0.60	0.32	2.28	1.21
1	5/26/80	9	2142	12.2	0.85	0.43	3.82	1.93
1	5/26/80	10	1722	12.7				
1	5/26/80	11	2186	19.3	0.72	0.37	2.68	1.38
	MEAN					0.31		1.28
	STANDARD DEVIATION					0.06		0.29

SITE	DATE	LOC	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA

TABLE G1- 4. FOUR MILE CREEK WATERSHED HERBICIDE MEASUREMENTS IN VOLUME SOIL SAMPLES FOR 1980 SITE 2 -- CORN

SITE	DATE	LOC	SAMPLE WT. GM	H20 %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
2	5/ 7/80	1	2079	9.4	3.76	1.85	4.42	2.17
2	5/ 7/80	1A	1776	6.7			4.99	2.10
2	5/ 7/80	2	1730	6.2	4.85	1.99	4.81	1.97
2	5/ 7/80	3	2117	11.7	4.22	2.11	4.68	2.34
2	5/ 7/80	4	2334	8.4	3.99	2.20	4.04	2.23
2	5/ 7/80	5	2197	7.9			4.95	2.57
2	5/ 7/80	6	2323	11.2	4.14	2.27	3.97	2.18
2	5/ 7/80	7	2169	10.2				
2	5/ 7/80	8	2469	4.8	3.29	1.92	3.30	1.93
2	5/ 7/80	9	2415	9.5	4.13	2.36	4.44	2.54
2	5/ 7/80	10	2452	9.4	3.47	2.01	4.33	2.51
2	5/ 7/80	11	2678	7.5	4.61	2.92	4.70	2.98
	MEAN					2.18		2.32
	STANDARD DEVIATION					0.32		0.31
2	5/ 9/80	1	2160	7.5	4.71	2.41	5.14	2.62
2	5/ 9/80	1A	1743	8.3			6.23	2.57
2	5/ 9/80	2	2223	11.3	3.52	1.85	3.99	2.10
2	5/ 9/80	3	2076	13.4			6.76	3.32
2	5/ 9/80	4	2479	10.8	3.20	1.88	3.71	2.17
2	5/ 9/80	5	1744	6.0				
2	5/ 9/80	6	2041	9.4	3.42	1.65	4.21	2.03
2	5/ 9/80	7	2055	9.6	2.22	1.08	3.17	1.54
2	5/ 9/80	8	2297	5.3	2.78	1.51	3.19	1.73
2	5/ 9/80	9	2088	10.8	3.88	1.92	4.42	2.18
2	5/ 9/80	10	2507	12.1	3.24	1.92	3.36	1.99
2	5/ 9/80	11	2653	14.1	3.42	2.15	4.05	2.54
	MEAN					1.82		2.25
	STANDARD DEVIATION					0.38		0.49
2	5/11/80	1	2172	12.7	3.19	1.64	4.50	2.31
2	5/11/80	2	1838	12.5	3.16	1.37	5.11	2.22
2	5/11/80	3	1615	15.5				
2	5/11/80	3A	1915	18.9	3.71	1.68	5.07	2.29
2	5/11/80	4	1749	13.4	3.54	1.46	4.91	2.03
2	5/11/80	5	2138	11.3				
2	5/11/80	6	2363	12.0	3.45	1.93	4.70	2.63
2	5/11/80	7	2156	12.6			3.60	1.84
2	5/11/80	8	2365	14.0	2.99	1.67	4.02	2.25
2	5/11/80	9	1791	12.8	3.46	1.47	4.73	2.00
2	5/11/80	10	2345	10.4	2.80	1.55	3.65	2.03
2	5/11/80	11	2404	14.1	3.48	1.98	4.52	2.57
	MEAN					1.64		2.22
	STANDARD DEVIATION					0.21		0.25

SITE	DATE	LOC	SAMPLE WT. GM	H20 %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
2	5/14/80	1	2246	10.5	3.51	1.87	4.34	2.30
2	5/14/80	2	1912	8.2	3.07	1.39	3.90	1.76
2	5/14/80	3	2028	14.4	3.39	1.62	4.06	1.95
2	5/14/80	4	1994	9.2	3.11	1.47	3.77	1.78
2	5/14/80	4A	2094	8.8	3.46	1.71	3.66	1.81
2	5/14/80	5	2248	10.3				
2	5/14/80	6	2645	10.5	2.87	1.80	3.47	2.17
2	5/14/80	7	2220	10.9				
2	5/14/80	8	2184	9.9	3.18	1.64	3.56	1.84
2	5/14/80	9	1997	10.8	3.49	1.65	4.00	1.89
2	5/14/80	10	1802	7.7	3.44	1.46	3.66	1.56
2	5/14/80	11	1568	10.9	4.16	1.54	4.18	1.55
	MEAN					1.62		1.86
	STANDARD DEVIATION					0.15		0.24

TABLE G2- 1. FOUR MILE CREEK WATERSHED HERBICIDE MEASUREMENTS IN CORE SOIL SAMPLES FOR 1979 SITE 1 -- CORN

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
1-1	5/ 8/79	0-1	72.3	19.4	0.0	0.0	0.0	0.0
1-1	5/ 8/79	1-7.5	289.1	26.4	0.0	0.0	0.06	0.04
1-1	5/ 8/79	7.5-15			0.0	0.0	0.02	0.02
1-1	5/ 8/79	15-30			0.01	0.02	0.0	0.0
		TOTAL				0.02		0.06
1-2	5/ 8/79	0-1	75.8	20.1	0.0	0.0	0.06	0.01
1-2	5/ 8/79	1-7.5	320.5	23.1	0.0	0.0	0.07	0.05
1-2	5/ 8/79	7.5-15			0.0	0.0	0.02	0.02
1-2	5/ 8/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.0		0.10
1-3	5/ 8/79	0-1	66.5	16.4	0.0	0.0	0.05	0.01
1-3	5/ 8/79	1-7.5	256.9	24.9	0.0	0.0	0.04	0.02
1-3	5/ 8/79	7.5-15			0.01	0.01	0.03	0.03
1-3	5/ 8/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.01		0.08
		MEAN				0.01		0.08
		STANDARD DEVIATION				0.01		0.02
1-1	5/21/79	0-1	67.7	11.7	2.27	0.34	7.93	1.18
1-1	5/21/79	1-7.5	338.0	24.2	0.14	0.10	0.67	0.50
1-1	5/21/79	7.5-15			0.02	0.02	0.13	0.14
1-1	5/21/79	15-30			0.01	0.02	0.03	0.06
		TOTAL				0.48		1.88
1-2	5/21/79	0-1	70.2	9.8	2.89	0.44	7.04	1.08
1-2	5/21/79	1-7.5	332.3	22.4	0.20	0.15	0.70	0.51
1-2	5/21/79	7.5-15			0.03	0.03	0.16	0.17
1-2	5/21/79	15-30			0.01	0.02		
		TOTAL				0.64		1.76
1-3	5/21/79	0-1	65.9	8.5	2.17	0.31	5.80	0.84
1-3	5/21/79	1-7.5	322.8	21.9	0.11	0.08	0.64	0.45
1-3	5/21/79	7.5-15			0.05	0.05	0.13	0.14
1-3	5/21/79	15-30			0.01	0.02		
		TOTAL				0.46		1.43
		MEAN				0.53		1.69
		STANDARD DEVIATION				0.10		0.23

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
1-1	5/29/79	0-1	55.4	18.3	1.75	0.21		
1-1	5/29/79	1-7.5	363.0	25.6	0.05	0.04	0.30	0.24
1-1	5/29/79	7.5-15			0.02	0.02	0.04	0.04
1-1	5/29/79	15-30			0.0	0.0	0.02	0.04
		TOTAL				0.27		0.32
1-2	5/29/79	0-1	55.9	18.5	2.90	0.36	13.3	1.63
1-2	5/29/79	1-7.5	365.8	24.4	0.10	0.08	0.65	0.52
1-2	5/29/79	7.5-15			0.02	0.02	0.02	0.02
1-2	5/29/79	15-30			0.01	0.02	0.01	0.02
		TOTAL				0.48		2.19
1-3	5/29/79	0-1	64.1	16.3	1.86	0.26	9.7	1.36
1-3	5/29/79	1-7.5	325.3	23.5	0.05	0.04	0.30	0.21
1-3	5/29/79	7.5-15			0.02	0.02	0.02	0.02
1-3	5/29/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.32		1.61
		MEAN				0.36		1.37
		STANDARD DEVIATION				0.11		0.96
1-1	6/ 5/79	0-1	75.8	26.4			5.93	0.99
1-1	6/ 5/79	1-7.5	331.2	28.7	0.13	0.09	0.92	0.67
1-1	6/ 5/79	7.5-15			0.01	0.01	0.05	0.05
1-1	6/ 5/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.10		1.73
1-2	6/ 5/79	0-1	69.2	23.4	1.16	0.18	7.87	1.19
1-2	6/ 5/79	1-7.5	337.1	25.9	0.12	0.09	0.99	0.73
1-2	6/ 5/79	7.5-15			0.01	0.01	0.05	0.05
1-2	6/ 5/79	15-30			0.0	0.0	0.02	0.04
		TOTAL				0.28		2.02
1-3	6/ 5/79	0-1	60.3	13.4	1.50	0.20		
1-3	6/ 5/79	1-7.5	311.8	22.6	0.16	0.11	0.77	0.53
1-3	6/ 5/79	7.5-15			0.01	0.01	0.05	0.05
1-3	6/ 5/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.32		0.60
		MEAN				0.23		1.45
		STANDARD DEVIATION				0.12		0.75

TABLE 62- 1. CONTINUED

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
1-1	6/11/79	0-1	64.3	16.9	3.04	0.43	7.97	1.12
1-1	6/11/79	1-7.5	374.0	25.4	2.78	2.28	1.77	1.45
1-1	6/11/79	7.5-15			0.01	0.01	0.02	0.02
1-1	6/11/79	15-30			0.0	0.0		
		TOTAL				2.72		2.59
1-2	6/11/79	0-1	57.8	12.1	3.24	0.41	4.51	0.57
1-2	6/11/79	1-7.5	382.0	24.3	1.85	1.55		
1-2	6/11/79	7.5-15			0.00	0.00	0.01	0.01
1-2	6/11/79	15-30			0.0	0.0		
		TOTAL				1.96		0.58
1-3	6/11/79	0-1	62.7	9.5			6.09	0.84
1-3	6/11/79	1-7.5	317.6	21.8			0.92	0.64
1-3	6/11/79	7.5-15			0.01	0.01	0.04	0.04
1-3	6/11/79	15-30			0.0	0.0		
		TOTAL				0.01		1.52
		MEAN				1.56		1.56
		STANDARD DEVIATION				1.40		1.01

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
1-1	6/14/79	0-1	59.7	17.8	0.16	0.02	2.52	0.33
1-1	6/14/79	1-7.5	325.0	25.7	0.05	0.04	1.42	1.01
1-1	6/14/79	7.5-15			0.01	0.01	0.05	0.05
1-1	6/14/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.07		1.42
1-2	6/14/79	0-1	58.8	17.6	0.14	0.02	2.55	0.33
1-2	6/14/79	1-7.5	359.9	24.3	0.04	0.03	0.84	0.66
1-2	6/14/79	7.5-15			0.01	0.01	0.02	0.02
1-2	6/14/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.06		1.03
1-3	6/14/79	0-1	55.0	22.6	0.13	0.02	2.81	0.34
1-3	6/14/79	1-7.5	331.2	25.3	0.02	0.01	0.83	0.60
1-3	6/14/79	7.5-15			0.01	0.01	0.02	0.02
1-3	6/14/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.04		0.98
		MEAN				0.06		1.14
		STANDARD DEVIATION				0.02		0.24

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
1-1	6/26/79	0-1	63.0	6.5	0.02	0.00	1.39	0.19
1-1	6/26/79	1-7.5	309.7	20.4	0.01	0.01	0.95	0.69
1-1	6/26/79	7.5-15			0.0	0.0	0.14	0.15
1-1	6/26/79	15-30			0.0	0.0	0.02	0.04
		TOTAL				0.01		1.03
1-2	6/26/79	0-1	68.9	4.9	0.01	0.00	1.08	0.16
1-2	6/26/79	1-7.5	339.7	18.7	0.00	0.00	0.30	0.22
1-2	6/26/79	7.5-15			0.0	0.0	0.07	0.07
1-2	6/26/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.00		0.48
1-3	6/26/79	0-1	66.7	6.0			0.94	0.14
1-3	6/26/79	1-7.5	296.1	19.7	0.01	0.01	0.40	0.26
1-3	6/26/79	7.5-15			0.0	0.0	0.05	0.05
1-3	6/26/79	15-30			0.0	0.0	0.02	0.04
		TOTAL				0.01		0.49
		MEAN				0.01		0.67
		STANDARD DEVIATION				0.01		0.31

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
1-1	6/29/79	0-1	59.3	23.8	0.06	0.01	1.59	0.21
1-1	6/29/79	1-7.5	314.9	27.1	0.01	0.01	0.72	0.50
1-1	6/29/79	7.5-15			0.0	0.0	0.03	0.03
1-1	6/29/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.02		0.74
1-2	6/29/79	0-1	65.3	26.7	0.01	0.00	1.35	0.19
1-2	6/29/79	1-7.5	301.6	27.1	0.00	0.00	0.42	0.28
1-2	6/29/79	7.5-15			0.0	0.0	0.02	0.02
1-2	6/29/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.00		0.51
1-3	6/29/79	0-1	64.1	17.6	0.04	0.01	2.00	0.28
1-3	6/29/79	1-7.5	304.2	22.6	0.00	0.00	0.32	0.21
1-3	6/29/79	7.5-15			0.0	0.0	0.02	0.02
1-3	6/29/79	15-30			0.0	0.0		
		TOTAL				0.01		0.52
		MEAN				0.01		0.59
		STANDARD DEVIATION				0.01		0.13

TABLE G2- 1. CONCLUDED

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
1-1	7/ 6/79	0-1	58.9	24.4	0.03	0.00	0.81	0.10
1-1	7/ 6/79	1-7.5	302.1	26.7			0.56	0.37
1-1	7/ 6/79	7.5-15			0.0	0.0	0.07	0.07
1-1	7/ 6/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.00		0.57
1-2	7/ 6/79	0-1	62.5	16.2	0.01	0.00	0.79	0.11
1-2	7/ 6/79	1-7.5	346.2	24.3	0.00	0.00	0.37	0.28
1-2	7/ 6/79	7.5-15			0.0	0.0	0.06	0.06
1-2	7/ 6/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.00		0.47
1-3	7/ 6/79	0-1	66.0	24.2	0.07	0.01	0.97	0.14
1-3	7/ 6/79	1-7.5	315.6	25.0	0.00	0.00	0.41	0.28
1-3	7/ 6/79	7.5-15			0.0	0.0	0.02	0.02
1-3	7/ 6/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.01		0.47
		MEAN				0.00		0.50
		STANDARD DEVIATION				0.00		0.06
1-1	7/16/79	0-1	61.9	25.4	0.01	0.00	0.31	0.07
1-1	7/16/79	1-7.5	317.3	27.5	0.01	0.01	0.67	0.47
1-1	7/16/79	7.5-15			0.0	0.0	0.12	0.13
1-1	7/16/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.01		0.68
1-2	7/16/79	0-1	68.9	19.5	0.03	0.00	0.53	0.08
1-2	7/16/79	1-7.5	368.4	23.9	0.01	0.01		
1-2	7/16/79	7.5-15			0.01	0.01	0.01	0.01
1-2	7/16/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.02		0.11
1-3	7/16/79	0-1	66.4	26.5			0.87	0.13
1-3	7/16/79	1-7.5	328.9	25.9	0.00	0.00		
1-3	7/16/79	7.5-15			0.0	0.0	0.02	0.02
1-3	7/16/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.0		0.17
		MEAN				0.01		0.32
		STANDARD DEVIATION				0.01		0.31
1-1	8/ 1/79	0-1	67.6	20.5	0.01	0.00	0.29	0.04
1-1	8/ 1/79	1-7.5	269.7	23.9	0.01	0.01	0.36	0.21
1-1	8/ 1/79	7.5-15			0.0	0.0	0.16	0.17
1-1	8/ 1/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.01		0.44
1-2	8/ 1/79	0-1	67.5	15.9	0.05	0.01	0.78	0.12
1-2	8/ 1/79	1-7.5	288.9	19.3	0.00	0.00	0.10	0.06
1-2	8/ 1/79	7.5-15			0.0	0.0	0.02	0.02
1-2	8/ 1/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.01		0.20
1-3	8/ 1/79	0-1	71.5	21.5	0.02	0.00	0.66	0.10
1-3	8/ 1/79	1-7.5	320.8	22.5				
1-3	8/ 1/79	7.5-15			0.0	0.0	0.10	0.11
1-3	8/ 1/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.0		0.21
		MEAN				0.01		0.28
		STANDARD DEVIATION				0.01		0.14

TABLE G2- 2. FOUR MILE CREEK WATERSHED HERBICIDE MEASUREMENTS IN CORE SOIL SAMPLES FOR 1979 SITE 2 -- SOYBEANS

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
2-1	5/20/79	0-1	78.3	12.6	0.01	0.00	0.02	0.00
2-1	5/20/79	1-7.5	299.9	22.9	0.0	0.0	0.01	0.01
2-1	5/20/79	7.5-15			0.0	0.0	0.01	0.01
2-1	5/20/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.00		0.02
2-2	5/20/79	0-1	96.3	10.3	0.0	0.0	0.01	0.00
2-2	5/20/79	1-7.5	336.2	21.5	0.0	0.0	0.01	0.01
2-2	5/20/79	7.5-15			0.0	0.0	0.01	0.01
2-2	5/20/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.0		0.04
2-3	5/20/79	0-1	74.1	12.3	0.01	0.00	0.01	0.00
2-3	5/20/79	1-7.5	290.9	21.9	0.02	0.01	0.01	0.01
2-3	5/20/79	7.5-15			0.0	0.0		
2-3	5/20/79	15-30			0.0	0.0		
		TOTAL				0.01		0.01
		MEAN				0.01		0.02
		STANDARD DEVIATION				0.01		0.02
2-1	6/ 5/79	0-1	61.6	22.2	1.94	0.26	7.03	0.95
2-1	6/ 5/79	1-7.5	314.3	25.7	0.15	0.10	0.34	0.23
2-1	6/ 5/79	7.5-15						
2-1	6/ 5/79	15-30			0.0	0.0	0.06	0.13
		TOTAL				0.37		1.31
2-2	6/ 5/79	0-1	67.2	16.8	1.79	0.26	7.34	1.08
2-2	6/ 5/79	1-7.5	337.6	22.4	0.21	0.16	0.46	0.34
2-2	6/ 5/79	7.5-15			0.0	0.0	0.04	0.04
2-2	6/ 5/79	15-30			0.0	0.0	0.04	0.08
		TOTAL				0.42		1.55
2-3	6/ 5/79	0-1	57.6	12.5	2.81	0.33		
2-3	6/ 5/79	1-7.5	294.9	22.5	0.24	0.16		
2-3	6/ 5/79	7.5-15			0.01	0.01	0.04	0.04
2-3	6/ 5/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.50		0.66
		MEAN				0.43		0.97
		STANDARD DEVIATION				0.07		0.80

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
2-1	6/11/79	0-1	58.1	12.7	1.44	0.18	5.65	0.72
2-1	6/11/79	1-7.5	317.2	23.6	0.17	0.12	0.27	0.19
2-1	6/11/79	7.5-15			0.0	0.0	0.01	0.01
2-1	6/11/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.30		0.94
2-2	6/11/79	0-1	65.2	7.6	0.94	0.13	3.63	0.52
2-2	6/11/79	1-7.5	310.3	20.9	0.20	0.14	0.37	0.25
2-2	6/11/79	7.5-15			0.01	0.01	0.02	0.02
2-2	6/11/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.28		0.81
2-3	6/11/79	0-1	66.2	6.7	0.91	0.13	3.46	0.50
2-3	6/11/79	1-7.5	342.1	20.4	0.21	0.16	0.35	0.26
2-3	6/11/79	7.5-15			0.01	0.01	0.03	0.03
2-3	6/11/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.30		0.82
		MEAN				0.29		0.86
		STANDARD DEVIATION				0.01		0.07
2-1	6/14/79	0-1	59.6	17.2	0.65	0.08	2.15	0.26
2-1	6/14/79	1-7.5	296.6	26.5	0.16	0.10	0.22	0.14
2-1	6/14/79	7.5-15			0.01	0.01	0.01	0.01
2-1	6/14/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.20		0.46
2-2	6/14/79	0-1	61.2	9.2	0.37	0.05	1.47	0.20
2-2	6/14/79	1-7.5	317.4	20.3	0.18	0.13	0.33	0.23
2-2	6/14/79	7.5-15			0.01	0.01	0.01	0.01
2-2	6/14/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.19		0.46
2-3	6/14/79	0-1	55.3	23.0	0.65	0.08	2.06	0.25
2-3	6/14/79	1-7.5	309.4	21.1	0.19	0.13	0.33	0.22
2-3	6/14/79	7.5-15			0.01	0.01	0.01	0.01
2-3	6/14/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.22		0.48
		MEAN				0.20		0.47
		STANDARD DEVIATION				0.02		0.02

TABLE G2- 2. CONTINUED

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
2-1	6/19/79	0-1	50.9	14.7	0.38	0.04	1.50	0.17
2-1	6/19/79	1-7.5	303.4	25.3	0.24	0.16	0.51	0.34
2-1	6/19/79	7.5-15			0.02	0.02	0.03	0.03
2-1	6/19/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.22		0.56
2-2	6/19/79	0-1	65.6	10.9	0.33	0.05	0.73	0.10
2-2	6/19/79	1-7.5	322.1	22.4	0.17	0.12	0.23	0.16
2-2	6/19/79	7.5-15			0.01	0.01	0.02	0.02
2-2	6/19/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.18		0.31
2-3	6/19/79	0-1	68.4	12.5	0.31	0.05	0.57	0.09
2-3	6/19/79	1-7.5	346.9	23.1	0.22	0.17	0.33	0.25
2-3	6/19/79	7.5-15			0.01	0.01		
2-3	6/19/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.22		0.34
		MEAN				0.21		0.40
		STANDARD DEVIATION				0.03		0.14
2-1	6/26/79	0-1	54.3	7.9	0.32	0.04	0.43	0.05
2-1	6/26/79	1-7.5	299.0	23.8	0.23	0.15	0.45	0.30
2-1	6/26/79	7.5-15			0.04	0.04	0.08	0.08
2-1	6/26/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.23		0.45
2-2	6/26/79	0-1	65.8	5.7	0.17	0.02	0.22	0.03
2-2	6/26/79	1-7.5	345.4	21.1	0.12	0.09	0.14	0.11
2-2	6/26/79	7.5-15			0.01	0.01	0.01	0.01
2-2	6/26/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.13		0.17
2-3	6/26/79	0-1	58.0	4.6	0.18	0.02	0.26	0.03
2-3	6/26/79	1-7.5	303.9	19.2	0.16	0.12	0.30	0.20
2-3	6/26/79	7.5-15			0.02	0.02	0.04	0.04
2-3	6/26/79	15-30			0.0	0.0	0.01	0.02
		TOTAL				0.16		0.29
		MEAN				0.17		0.31
		STANDARD DEVIATION				0.05		0.14

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
2-1	6/29/79	0-1	57.8	27.5	0.40	0.05	0.58	0.07
2-1	6/29/79	1-7.5	311.8	28.2	0.26	0.18	0.42	0.29
2-1	6/29/79	7.5-15			0.01	0.01	0.01	0.01
2-1	6/29/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.24		0.37
2-2	6/29/79	0-1	55.9	28.2	0.14	0.02	0.21	0.03
2-2	6/29/79	1-7.5	345.5	21.9	0.12	0.09		
2-2	6/29/79	7.5-15			0.0	0.0	0.0	0.0
2-2	6/29/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.11		0.03
2-3	6/29/79	0-1	62.9	14.9	0.17	0.02	0.16	0.02
2-3	6/29/79	1-7.5	318.7	24.9	0.11	0.08	0.55	0.38
2-3	6/29/79	7.5-15			0.01	0.01	0.01	0.01
2-3	6/29/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.11		0.41
		MEAN				0.15		0.27
		STANDARD DEVIATION				0.07		0.21
2-1	7/ 6/79	0-1	64.3	18.6	0.12	0.02	0.16	0.02
2-1	7/ 6/79	1-7.5	307.9	25.5	0.14	0.09	0.19	0.13
2-1	7/ 6/79	7.5-15			0.01	0.01	0.04	0.04
2-1	7/ 6/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.12		0.19
2-2	7/ 6/79	0-1	65.9	12.9	0.08	0.01	0.09	0.01
2-2	7/ 6/79	1-7.5	351.3	24.1	0.05	0.04	0.05	0.04
2-2	7/ 6/79	7.5-15			0.0	0.0	0.0	0.0
2-2	7/ 6/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.05		0.05
2-3	7/ 6/79	0-1	64.7	17.3	0.11	0.02	0.10	0.01
2-3	7/ 6/79	1-7.5	333.9	24.8	0.10	0.07	0.05	0.04
2-3	7/ 6/79	7.5-15			0.01	0.01	0.0	0.0
2-3	7/ 6/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.10		0.05
		MEAN				0.09		0.10
		STANDARD DEVIATION				0.04		0.08

TABLE G2- 2. CONCLUDED

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
2-1	7/16/79	0-1	55.6	11.6	0.09	0.01	0.10	0.01
2-1	7/16/79	1-7.5	329.7	24.9	0.11	0.08	0.09	0.07
2-1	7/16/79	7.5-15			0.01	0.01	0.03	0.03
2-1	7/16/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.10		0.11
2-2	7/16/79	0-1	54.7	10.0	0.04	0.00	0.03	0.00
2-2	7/16/79	1-7.5	345.1	23.2	0.04	0.03	0.02	0.02
2-2	7/16/79	7.5-15			0.0	0.0	0.0	0.0
2-2	7/16/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.04		0.02
2-3	7/16/79	0-1	62.9	14.2	0.06	0.01	0.18	0.02
2-3	7/16/79	1-7.5	314.7	23.5	0.07	0.05	0.10	0.07
2-3	7/16/79	7.5-15			0.0	0.0	0.10	0.11
2-3	7/16/79	15-30			0.0	0.0		
		TOTAL				0.06		0.20
		MEAN				0.06		0.11
		STANDARD DEVIATION				0.03		0.09
2-1	8/ 1/79	0-1	75.8	15.6	0.08	0.01	0.06	0.01
2-1	8/ 1/79	1-7.5	322.7	23.4	0.06	0.04	0.04	0.03
2-1	8/ 1/79	7.5-15			0.01	0.01	0.02	0.02
2-1	8/ 1/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.07		0.06
2-2	8/ 1/79	0-1	71.9	15.1	0.05	0.01		
2-2	8/ 1/79	1-7.5	367.9	21.0	0.03	0.02		
2-2	8/ 1/79	7.5-15			0.0	0.0	0.0	0.0
2-2	8/ 1/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.03		0.00
2-3	8/ 1/79	0-1	73.4	15.3	0.06	0.01	0.04	0.01
2-3	8/ 1/79	1-7.5	324.5	20.8	0.04	0.03	0.03	0.02
2-3	8/ 1/79	7.5-15			0.0	0.0	0.0	0.0
2-3	8/ 1/79	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.04		0.03
		MEAN				0.05		0.03
		STANDARD DEVIATION				0.02		0.03

TABLE G2- 3. FOUR MILE CREEK WATERSHED HERBICIDE MEASUREMENTS IN CORE SOIL SAMPLES FOR 1980 SITE 1 -- SOYBEANS

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
1-1	5/22/80	0-1	71.6	7.4	0.01	0.00	0.0	0.0
1-1	5/22/80	1-7.5	344.0	19.7	0.0	0.0	0.02	0.02
1-1	5/22/80	7.5-15			0.0	0.0	0.01	0.01
1-1	5/22/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.00		0.03
1-2	5/22/80	0-1	84.6	8.3	0.01	0.00	0.02	0.00
1-2	5/22/80	1-7.5	357.5	18.8	0.0	0.0	0.01	0.01
1-2	5/22/80	7.5-15			0.0	0.0	0.01	0.01
1-2	5/22/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.00		0.02
1-3	5/22/80	0-1	68.9	5.7	0.01	0.00	0.02	0.00
1-3	5/22/80	1-7.5	307.8	17.8	0.0	0.0	0.0	0.0
1-3	5/22/80	7.5-15			0.0	0.0	0.01	0.01
1-3	5/22/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.00		0.01
		MEAN				0.00		0.02
		STANDARD DEVIATION				0.00		0.01
1-1	5/31/80	0-1	71.9	23.5	1.01	0.16	3.47	0.55
1-1	5/31/80	1-7.5	341.1	25.4	0.37	0.28	0.43	0.32
1-1	5/31/80	7.5-15			0.02	0.02	0.02	0.02
1-1	5/31/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.46		0.89
1-2	5/31/80	0-1	72.5	17.0	0.76	0.12	2.25	0.36
1-2	5/31/80	1-7.5	361.5	24.2	0.17	0.13	0.20	0.16
1-2	5/31/80	7.5-15			0.02	0.02	0.02	0.02
1-2	5/31/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.28		0.54
1-3	5/31/80	0-1	78.8	19.8	1.12	0.19	5.28	0.91
1-3	5/31/80	1-7.5	343.5	24.1	0.10	0.08	0.33	0.25
1-3	5/31/80	7.5-15			0.01	0.01	0.03	0.03
1-3	5/31/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.28		1.19
		MEAN				0.34		0.87
		STANDARD DEVIATION				0.10		0.33

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
1-1	6/ 5/80	0-1	74.9	14.0	0.66	0.11		
1-1	6/ 5/80	1-7.5	321.8	21.8	0.15	0.11	0.32	0.23
1-1	6/ 5/80	7.5-15			0.02	0.02	0.03	0.03
1-1	6/ 5/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.24		0.26
1-2	6/ 5/80	0-1	74.6	9.1	0.46	0.08	1.51	0.25
1-2	6/ 5/80	1-7.5	362.5	19.3	0.15	0.12	0.25	0.20
1-2	6/ 5/80	7.5-15			0.02	0.02	0.01	0.01
1-2	6/ 5/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.22		0.46
1-3	6/ 5/80	0-1	77.8	10.6	0.81	0.14		
1-3	6/ 5/80	1-7.5	335.9	20.9	0.19	0.14	0.38	0.28
1-3	6/ 5/80	7.5-15			0.02	0.02	0.04	0.04
1-3	6/ 5/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.30		0.32
		MEAN				0.25		0.35
		STANDARD DEVIATION				0.04		0.10
1-1	6/18/80	0-1	78.1	10.6			0.52	0.09
1-1	6/18/80	1-7.5	351.4	22.7	0.05	0.04	0.38	0.36
1-1	6/18/80	7.5-15			0.01	0.01	0.01	0.01
1-1	6/18/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.05		0.16
1-2	6/18/80	0-1	79.5	9.2				
1-2	6/18/80	1-7.5	393.9	23.1	0.04	0.03	0.05	0.04
1-2	6/18/80	7.5-15			0.01	0.01	0.0	0.0
1-2	6/18/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.05		0.04
1-3	6/18/80	0-1	74.0	12.1			0.41	0.07
1-3	6/18/80	1-7.5	378.2	22.2	0.06	0.05	0.09	0.07
1-3	6/18/80	7.5-15			0.02	0.02	0.01	0.01
1-3	6/18/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.07		0.15
		MEAN				0.05		0.12
		STANDARD DEVIATION				0.01		0.07

TABLE G2- 3. CONCLUDED

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	METRIBUZIN PPM	METRIBUZIN KG/HA	ALACHLOR PPM	ALACHLOR KG/HA
1-1	7/ 1/80	0-1	80.8	6.5				
1-1	7/ 1/80	1-7.5	376.7	20.6	0.03	0.02	0.06	0.05
1-1	7/ 1/80	7.5-15			0.0	0.0	0.02	0.02
1-1	7/ 1/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.02		0.07
1-2	7/ 1/80	0-1	72.2	7.0				
1-2	7/ 1/80	1-7.5	401.7	20.2	0.03	0.03	0.05	0.04
1-2	7/ 1/80	7.5-15			0.0	0.0	0.02	0.02
1-2	7/ 1/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.03		0.07
1-3	7/ 1/80	0-1	74.2	5.1				
1-3	7/ 1/80	1-7.5	348.5	18.0	0.03	0.02	0.06	0.05
1-3	7/ 1/80	7.5-15			0.01	0.01	0.02	0.02
1-3	7/ 1/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.03		0.07
		MEAN				0.03		0.07
		STANDARD DEVIATION				0.00		0.00
1-1	7/22/80	0-1	78.9	13.1				
1-1	7/22/80	1-7.5	204.8	17.6	0.03	0.01	0.05	0.02
1-1	7/22/80	7.5-15			0.0	0.0	0.02	0.02
1-1	7/22/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.01		0.04
1-2	7/22/80	0-1	85.1	14.1				
1-2	7/22/80	1-7.5	386.4	19.1	0.03	0.03	0.04	0.03
1-2	7/22/80	7.5-15			0.0	0.0	0.02	0.02
1-2	7/22/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.03		0.05
1-3	7/22/80	0-1	70.8	13.2				
1-3	7/22/80	1-7.5		17.6	0.03		0.06	
1-3	7/22/80	7.5-15			0.0	0.0	0.03	0.03
1-3	7/22/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.0		0.03
		MEAN				0.01		0.04
		STANDARD DEVIATION				0.01		0.01

TABLE G2- 4. FOUR MILE CREEK WATERSHED HERBICIDE MEASUREMENTS IN CORE SOIL SAMPLES FOR 1980 SITE 2 -- CORN

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
2-1	5/ 5/80	0-1	78.4	6.7	0.03	0.01	0.0	0.0
2-1	5/ 5/80	1-7.5	356.9	20.7	0.03	0.02	0.01	0.01
2-1	5/ 5/80	7.5-15			0.05	0.05	0.02	0.02
2-1	5/ 5/80	15-30			0.03	0.06	0.0	0.0
		TOTAL				0.14		0.03
2-2	5/ 5/80	0-1	74.8	3.6	0.05	0.01	0.0	0.0
2-2	5/ 5/80	1-7.5	346.2	16.9	0.06	0.05	0.0	0.0
2-2	5/ 5/80	7.5-15			0.05	0.05	0.0	0.0
2-2	5/ 5/80	15-30			0.05	0.11	0.0	0.0
		TOTAL				0.21		0.0
2-3	5/ 5/80	0-1	72.4	4.6	0.06	0.01	0.0	0.0
2-3	5/ 5/80	1-7.5	310.0	18.2	0.06	0.04	0.0	0.0
2-3	5/ 5/80	7.5-15			0.04	0.04	0.0	0.0
2-3	5/ 5/80	15-30			0.03	0.06	0.0	0.0
		TOTAL				0.16		0.0
		MEAN				0.17		0.01
		STANDARD DEVIATION				0.04		0.02
2-1	5/19/80	0-1	67.3	27.7	4.12	0.61	12.78	1.89
2-1	5/19/80	1-7.5	325.1	27.6	0.09	0.06	0.22	0.16
2-1	5/19/80	7.5-15			0.0	0.0	0.03	0.03
2-1	5/19/80	15-30			0.0	0.0	0.04	0.08
		TOTAL				0.67		2.16
2-2	5/19/80	0-1	78.4	26.1	3.75	0.64	10.86	1.87
2-2	5/19/80	1-7.5	354.1	27.4	0.12	0.09	0.37	0.29
2-2	5/19/80	7.5-15			0.0	0.0	0.02	0.02
2-2	5/19/80	15-30			0.0	0.0	0.02	0.04
		TOTAL				0.74		2.22
2-3	5/19/80	0-1	64.3	26.3	3.81	0.54	11.56	1.63
2-3	5/19/80	1-7.5	345.0	26.8	0.19	0.14	0.46	0.35
2-3	5/19/80	7.5-15			0.0	0.0	0.02	0.02
2-3	5/19/80	15-30			0.0	0.0	0.02	0.04
		TOTAL				0.68		2.04
		MEAN				0.70		2.14
		STANDARD DEVIATION				0.04		0.09

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
2-1	5/26/80	0-1	67.1	7.0	0.96	0.14	2.11	0.31
2-1	5/26/80	1-7.5	333.7	19.3	0.03	0.02	0.23	0.17
2-1	5/26/80	7.5-15			0.01	0.01	0.12	0.13
2-1	5/26/80	15-30			0.0	0.0	0.08	0.17
		TOTAL				0.17		0.77
2-2	5/26/80	0-1	68.3	4.1	1.74	0.26	3.51	0.53
2-2	5/26/80	1-7.5	349.9	18.9	0.03	0.02	0.28	0.21
2-2	5/26/80	7.5-15			0.01	0.01	0.11	0.12
2-2	5/26/80	15-30			0.01	0.02	0.09	0.19
		TOTAL				0.31		1.04
2-3	5/26/80	0-1	63.7	6.3	1.20	0.17	2.64	0.37
2-3	5/26/80	1-7.5	329.7	18.2	0.02	0.01	0.16	0.12
2-3	5/26/80	7.5-15			0.01	0.01	0.10	0.11
2-3	5/26/80	15-30			0.01	0.02	0.07	0.15
		TOTAL				0.22		0.74
		MEAN				0.23		0.85
		STANDARD DEVIATION				0.07		0.17
2-1	5/30/80	0-1	64.2	25.3	1.03	0.15	25.53	3.59
2-1	5/30/80	1-7.5	324.2	26.1	0.08	0.06	1.94	1.38
2-1	5/30/80	7.5-15			0.0	0.0	0.07	0.07
2-1	5/30/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.21		5.03
2-2	5/30/80	0-1	65.0	23.4	1.06	0.15	16.66	2.37
2-2	5/30/80	1-7.5	347.8	25.4	0.08	0.06	1.71	1.30
2-2	5/30/80	7.5-15			0.0	0.0	0.05	0.05
2-2	5/30/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.21		3.73
2-3	5/30/80	0-1	63.6	23.1	1.37	0.19	8.04	1.12
2-3	5/30/80	1-7.5	296.4	25.3	0.09	0.06	3.45	2.24
2-3	5/30/80	7.5-15			0.0	0.0	0.10	0.11
2-3	5/30/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.25		3.47
		MEAN				0.22		4.08
		STANDARD DEVIATION				0.02		0.85

TABLE G2- 4. CONCLUDED

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
2-1	6/ 5/80	0-1	67.8	8.8	0.14	0.02	4.71	0.70
2-1	6/ 5/80	1-7.5	332.4	18.4	0.02	0.01	0.67	0.49
2-1	6/ 5/80	7.5-15			0.0	0.0	0.21	0.22
2-1	6/ 5/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.03		1.41
2-2	6/ 5/80	0-1	66.7	7.1	0.0	0.0	0.0	0.0
2-2	6/ 5/80	1-7.5	330.6	17.7	0.01	0.01	0.61	0.44
2-2	6/ 5/80	7.5-15			0.0	0.0	0.03	0.03
2-2	6/ 5/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.01		0.47
2-3	6/ 5/80	0-1	66.3	9.0	0.15	0.02	4.05	0.59
2-3	6/ 5/80	1-7.5	302.9	20.1	0.04	0.03	0.50	0.33
2-3	6/ 5/80	7.5-15			0.0	0.0	0.04	0.04
2-3	6/ 5/80	15-30			0.03	0.06	0.0	0.0
		TOTAL				0.11		0.96
		MEAN				0.05		0.95
		STANDARD DEVIATION				0.05		0.47
2-1	6/18/80	0-1	69.1	12.4	0.04	0.01	3.11	0.47
2-1	6/18/80	1-7.5	326.6	22.5	0.02	0.01	0.50	0.36
2-1	6/18/80	7.5-15			0.0	0.0	0.06	0.06
2-1	6/18/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.02		0.89
2-2	6/18/80	0-1	71.4	11.0	0.02	0.00	2.61	0.41
2-2	6/18/80	1-7.5	352.2	22.9	0.0	0.0	0.41	0.32
2-2	6/18/80	7.5-15			0.0	0.0	0.04	0.04
2-2	6/18/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.00		0.77
2-3	6/18/80	0-1	73.8	15.0	0.04	0.01	3.13	0.51
2-3	6/18/80	1-7.5	316.7	23.0	0.0	0.0	0.41	0.28
2-3	6/18/80	7.5-15			0.0	0.0	0.04	0.04
2-3	6/18/80	15-30			0.0	0.0	0.03	0.06
		TOTAL				0.01		0.90
		MEAN				0.01		0.85
		STANDARD DEVIATION				0.01		0.07

SITE	DATE	DEPTH CM	SAMPLE WT. GM	H2O %	PROPACHLOR PPM	PROPACHLOR KG/HA	CYANAZINE PPM	CYANAZINE KG/HA
2-1	7/ 3/80	0-1	98.1	8.1	0.57	0.12	1.09	0.23
2-1	7/ 3/80	1-7.5		15.4	0.04		0.18	
2-1	7/ 3/80	7.5-15			0.0	0.0	0.04	0.04
2-1	7/ 3/80	15-30			0.0	0.0	0.04	0.08
		TOTAL				0.12		0.36
2-2	7/ 3/80	0-1	86.1	7.2	0.97	0.18	0.67	0.13
2-2	7/ 3/80	1-7.5	361.7	15.2	0.0	0.0	0.10	0.08
2-2	7/ 3/80	7.5-15			0.0	0.0	0.09	0.09
2-2	7/ 3/80	15-30			0.05	0.11	0.04	0.08
		TOTAL				0.29		0.39
2-3	7/ 3/80	0-1	87.8	7.2	0.0	0.0	0.74	0.14
2-3	7/ 3/80	1-7.5		15.6	0.0	0.0	0.17	
2-3	7/ 3/80	7.5-15			0.0	0.0	0.09	0.09
2-3	7/ 3/80	15-30			0.06	0.13	0.04	0.08
		TOTAL				0.13		0.32
		MEAN				0.18		0.36
		STANDARD DEVIATION				0.09		0.03
2-1	7/24/80	0-1	87.1	11.4			0.85	0.16
2-1	7/24/80	1-7.5	350.9	16.5	0.0	0.0	0.18	0.14
2-1	7/24/80	7.5-15			0.0	0.0	0.04	0.04
2-1	7/24/80	15-30			0.0	0.0	0.02	0.04
		TOTAL				0.00		0.38
2-2	7/24/80	0-1	94.9	11.2	0.02	0.00	0.83	0.17
2-2	7/24/80	1-7.5	391.5	14.8	0.0	0.0	0.08	0.07
2-2	7/24/80	7.5-15			0.0	0.0	0.03	0.03
2-2	7/24/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.00		0.27
2-3	7/24/80	0-1	99.3	11.5	0.0	0.0	0.56	0.12
2-3	7/24/80	1-7.5	326.2	15.0	0.0	0.0	0.08	0.06
2-3	7/24/80	7.5-15			0.0	0.0	0.0	0.0
2-3	7/24/80	15-30			0.0	0.0	0.0	0.0
		TOTAL				0.0		0.18
		MEAN				0.00		0.28
		STANDARD DEVIATION				0.00		0.10

TABLE G3- 1. FOUR MILE CREEK WATERSHED HERBICIDE CONCENTRATIONS IN RUNOFF WATER AND SEDIMENT FOR 1979 SITE 1

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
1	6/ 4/79	11	7			30.9	68.7		76.7	4006.6			
1	6/ 4/79	11	12			41.4	79.6		102.8	4642.3			
1	6/ 4/79	11	20			47.3	99.3		117.4	5791.2			
1	6/ 4/79	19	0			201.5	160.4		528.3	5071.9			
1	6/ 4/79	19	1			176.8	172.5		591.3	5388.0			
1	6/ 4/79	19	6			197.3	135.2		610.6	6456.2			
1	6/ 4/79	19	8			273.8	178.1		695.1	6070.4			
1	6/ 4/79	19	9			254.1	130.9		667.2	7339.4			
1	6/ 4/79	19	11			214.9	85.3		710.5	7012.7			
1	6/ 4/79	19	13			314.7	105.3		887.1	7417.2			
1	6/ 4/79	19	15			304.4	88.7		674.4	7638.8			
1	6/ 4/79	19	19			288.0	80.1		498.5	7806.6			
1	6/ 4/79	19	23			268.3	87.4		614.5	8357.6			
1	6/ 4/79	19	29			225.4	153.1		597.1	7975.6			
1	6/ 4/79	19	34			267.6	83.5		427.7	7124.5			
1	6/ 4/79	19	38			290.6	125.8		631.2	8843.2			
1	6/ 4/79	19	43			241.6	100.2		599.7	5843.7			
1	6/ 4/79	19	48			189.4	104.3		470.1	6082.8			
1	6/ 4/79	19	52			232.0	100.0		575.8	5832.0			
1	6/ 4/79	19	57			225.5	98.8		559.7	5762.0			
1	6/ 4/79	20	1			191.0	145.4		474.1	8479.7			
1	6/ 4/79	20	6			159.1	128.5		394.9	7494.1			
1	6/ 4/79	20	13			138.3	121.7		343.3	7097.5			
1	6/12/79	17	48			25.4	114.9		64.3	1901.3			
1	6/12/79	17	51			38.1	116.7		119.7	2601.8			
1	6/12/79	17	52			57.8	170.2		124.7	2954.2			
1	6/12/79	17	54			30.3	190.2		153.6	3518.2			
1	6/12/79	17	56			31.2	240.6		173.6	4035.6			
1	6/12/79	17	58			26.2	173.6		200.6	4077.3			
1	6/12/79	18	0			26.0	179.0		170.2	3963.6			
1	6/12/79	18	2			25.1	214.0		210.2	4314.4			
1	6/12/79	18	4			27.1	216.5		196.3	4403.8			
1	6/12/79	18	6			46.4	109.5		100.6	1410.9			
1	6/12/79	18	7			19.8	120.2		50.4	2286.3			
1	6/12/79	18	8			22.4	131.2		99.5	2056.9			
1	6/12/79	18	10			32.5	180.6		77.6	2279.1			
1	6/12/79	18	12			26.5	131.0		104.1	2054.5			
1	6/12/79	18	14			17.4	96.5		52.1	1512.7			
1	6/12/79	18	16			14.2	126.0		74.8	1793.5			
1	6/12/79	18	18			12.1	211.6		48.7	1200.0			
1	6/12/79	18	20			10.7	118.5		61.8	1691.3			
1	6/12/79	18	22			8.7	146.9		91.5	1192.5			
1	6/12/79	18	24			12.3	111.0		60.8	1316.0			
1	6/12/79	18	26			15.9	229.8		46.4	1046.5			
1	6/12/79	18	28			13.2	136.1		75.9	1471.5			
1	6/12/79	18	30			11.8	100.4		55.7	1487.4			
1	6/12/79	18	32			13.4	110.3		64.1	1665.8			
1	6/12/79	18	34			14.6	141.7		57.1	2041.1			
1	6/12/79	18	36			17.6	107.8		107.5	2084.8			
1	6/12/79	18	43			12.1	90.7		39.2	2016.4			
1	6/12/79	18	48			11.9	107.3		72.0	2284.5			
1	6/12/79	18	53			12.6	145.9		55.9	2287.7			
1	6/12/79	19	1			13.4	106.4		59.4	1668.4			

TABLE G3- 1. CONTINUED

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
1	6/19/79	22	31			2.1	143.4				43.5	1869.9	
1	6/19/79	22	55			2.6	139.3				33.3	2165.2	
1	6/19/79	23	2			1.9	146.0				31.1	2083.9	
1	6/27/79	0	10			2.4	108.2				6.4	701.2	
1	6/27/79	0	13			2.4	108.2				6.4	701.2	
1	6/27/79	0	15			2.2	66.5				25.4	786.2	
1	6/27/79	0	17			1.2	82.5				13.5	976.5	
1	6/27/79	0	19			1.1	96.5				13.1	1141.6	
1	6/27/79	0	21			1.2	63.1				14.4	746.7	
1	6/27/79	0	23			1.2	81.7				20.3	804.2	
1	6/27/79	0	25			1.6	78.5				18.9	884.7	
1	6/27/79	0	27			2.1	79.5				21.9	890.8	
1	6/27/79	0	29			1.0	78.7				16.9	802.6	
1	6/27/79	0	31			2.8	81.1				17.8	1388.2	
1	6/27/79	0	33			1.2	69.6				10.2	736.2	
1	6/27/79	0	35			2.2	71.6				18.4	1495.5	
1	6/27/79	0	37			1.2	65.3				13.9	772.5	
1	6/27/79	0	39			1.5	71.4				26.0	678.8	
1	6/27/79	0	41			0.5	64.5				12.9	732.3	
1	6/27/79	0	43			0.7	62.7				10.7	757.0	
1	6/27/79	0	45			0.0	60.4				18.3	869.6	
1	6/27/79	1	5			0.0	60.9				10.0	720.4	
1	6/27/79	1	10			1.1	60.4				12.7	714.5	
1	6/27/79	1	16			1.2	61.5				13.9	727.5	
1	7/ 3/79	8	2			6.3	106.2				10.7	1355.7	
1	7/ 3/79	8	6			3.2	59.0				37.9	753.4	
1	7/ 3/79	8	15			1.7	49.7				20.1	634.7	
1	7/ 3/79	8	25			1.6	50.5				19.0	644.9	
1	7/ 3/79	8	32			0.6	46.5				7.1	593.8	
1	7/ 3/79	8	46			1.2	26.0				10.1	261.9	
1	7/ 3/79	8	53			1.3	51.4				19.0	510.8	
1	7/ 3/79	8	55			1.7	48.3				16.9	551.2	
1	7/ 3/79	8	57			3.3	44.7				21.7	546.8	
1	7/ 3/79	8	59			1.6	41.0				23.9	444.6	
1	7/ 3/79	9	0			1.4	37.0				17.6	392.1	
1	7/ 3/79	9	2			1.0	32.1				20.2	493.7	
1	7/ 3/79	9	4			3.8	33.3				13.8	386.7	
1	7/ 3/79	9	6			1.4	34.8				13.5	376.4	
1	7/ 3/79	9	8			2.4	30.1				12.8	388.7	
1	7/ 3/79	9	10			2.8	28.4				18.6	378.2	
1	7/ 3/79	9	12			1.7	27.2				17.6	423.9	
1	7/ 3/79	9	14			0.8	23.5				13.0	377.3	
1	7/ 3/79	9	16			1.3	21.8				14.4	339.0	
1	7/ 3/79	9	18			0.4	15.2				22.6	186.7	
1	7/ 3/79	9	20			0.3	26.2				18.9	335.4	
1	7/ 3/79	9	26			1.8	13.9				14.0	134.6	
1	7/ 3/79	9	28			2.4	22.6				14.0	481.8	
1	7/ 3/79	9	30			1.3	27.1				17.1	389.7	
1	7/ 3/79	9	32			1.9	33.1				17.6	305.6	
1	7/ 3/79	9	34			2.6	29.0				14.7	469.2	
1	7/ 3/79	9	36			1.0	29.0				17.6	354.6	
1	7/ 3/79	9	38			2.3	35.1				23.8	334.2	
1	7/ 3/79	9	40			2.2	36.9				14.3	796.1	

TABLE G3- 1. CONTINUED

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
1	7/ 3/79	9	42			1.7		31.4			30.3		465.1
1	7/ 3/79	9	44			0.6		27.2			25.9		468.8
1	7/ 3/79	9	46			2.0		32.5			20.5		386.8
1	7/ 3/79	9	48			1.4		32.8			22.1		440.5
1	7/ 3/79	9	50			1.6		28.4			30.6		347.0
1	7/ 3/79	9	52			2.2		31.6			22.4		493.5
1	7/ 3/79	9	54			1.5		28.1			22.9		424.8
1	7/ 3/79	9	56			2.4		30.4			16.1		901.9
1	7/ 3/79	9	58			0.6		29.3			29.4		384.8
1	7/ 3/79	10	6			1.1		27.1			35.3		470.6
1	7/ 3/79	10	11			0.9		28.5			10.7		363.9
1	7/ 3/79	10	17			1.0		28.2			11.9		360.1
1	7/ 3/79	20	54			0.5		13.9			23.3		146.1
1	7/ 3/79	20	56			0.9		33.1			22.2		301.1
1	7/ 3/79	20	58			1.2		36.4			27.2		444.2
1	7/ 3/79	21	0			1.1		34.8			23.7		406.5
1	7/ 3/79	21	2			0.6		37.7			35.9		428.9
1	7/ 3/79	21	4			1.2		37.8			23.8		488.6
1	7/ 3/79	21	6			1.0		39.4			21.7		518.2
1	7/ 3/79	21	8			1.1		32.0			35.2		469.3
1	7/ 3/79	21	15			0.9		32.4			10.7		413.7
1	7/ 3/79	21	25			0.9		20.0			10.7		255.4
1	7/ 3/79	21	37			0.9		17.3			10.7		220.9
1	7/13/79	10	1			2.6		5.7			12.5		107.2
1	7/13/79	10	9			2.4		4.6			11.5		86.5
1	7/13/79	10	22			1.9		4.6			9.1		86.5
1	7/13/79	20	9			3.3		7.6			7.9		117.1
1	7/13/79	20	15			5.1		19.5			12.2		277.1
1	7/13/79	20	20			2.0		19.4			11.3		364.9
1	7/13/79	20	24			1.0		19.4			4.8		364.9
1	7/13/79	20	31			1.6		20.3			7.7		381.8
1	7/14/79	0	50			5.0		10.1			18.3		129.5
1	7/14/79	0	53			2.9		14.8			8.1		207.7
1	7/14/79	0	58			1.9		12.1			16.8		248.7
1	7/14/79	1	4			1.1		14.2			10.0		211.1
1	7/14/79	1	9			1.6		9.9			12.8		267.1
1	7/14/79	1	16			1.8		9.1			7.9		196.8
1	7/14/79	1	21			1.5		9.8			1.6		184.3
1	7/14/79	1	26			2.8		11.5			9.2		294.0
1	7/14/79	1	35			1.6		9.5			13.7		216.3
1	7/14/79	1	42			1.3		9.1			8.7		258.4
1	7/14/79	1	51			1.2		8.5			20.0		212.9
1	7/14/79	1	59			1.0		8.8			4.8		165.5
1	7/14/79	2	7			3.0		11.1			14.4		208.8
1	8/19/79	6	2			0.1		1.6			15.4		373.8
1	8/19/79	6	6			0.1		1.7			23.9		383.2
1	8/19/79	6	43			0.3		2.0			21.7		226.4
1	8/19/79	6	48			0.6		1.7			43.4		192.4
1	8/19/79	21	6			0.2		1.0			5.6		376.0
1	8/19/79	21	11			0.2		1.7			15.7		70.2
1	8/19/79	21	17			0.2		2.1			10.2		136.8
1	8/19/79	21	27			0.0		1.6			4.9		84.0
1	8/19/79	21	36			0.0		2.0			8.7		116.6

TABLE G3- 1. CONCLUDED

SITE	DATE	HOUR	MIN	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE
				PPB IN WATER					PPB IN SEDIMENT				
1	8/19/79	21	41			0.1		1.8			11.8		120.6
1	8/19/79	21	50			0.1		1.8			7.2		203.8
1	8/19/79	22	3			0.6		1.9			43.4		215.1
1	8/19/79	22	9			0.5		2.2			6.6		63.8
1	8/19/79	22	23			0.2		1.0			10.6		207.6
1	8/19/79	22	31			0.1		1.5			8.4		156.8
1	8/19/79	22	37			0.1		1.6			8.4		151.6
1	8/19/79	22	42			0.1		1.8			7.2		203.8
1	8/19/79	22	47			0.1		1.8			7.2		203.8
1	8/19/79	23	7			0.1		1.0			7.2		113.2
1	8/19/79	23	14			0.8		1.9			57.8		215.1
1	8/21/79	18	49			0.0		1.2			6.5		56.1
1	8/21/79	18	52			0.0		1.2			8.4		49.2
1	8/21/79	18	55			0.0		1.3			8.2		186.4
1	8/21/79	18	58			0.1		1.4			9.2		252.1
1	8/21/79	19	1			0.1		2.0			3.6		146.8
1	8/21/79	19	3			0.1		1.6			4.3		192.4
1	8/21/79	19	5			0.1		1.4			7.6		168.3
1	8/21/79	19	8			0.2		1.3			7.5		156.3
1	8/21/79	19	10			0.0		1.6			8.0		121.9
1	8/21/79	19	12			0.1		1.5			10.6		126.8
1	8/21/79	19	14			0.1		1.5			6.1		114.9
1	8/21/79	19	17			0.0		1.5			9.9		353.3
1	8/21/79	19	20			0.1		1.6			7.4		371.6
1	8/21/79	19	24			0.1		1.4			7.5		168.3
1	8/21/79	19	25			0.0		1.7			7.5		204.3
1	8/21/79	19	30			0.1		1.6			7.5		192.3
1	8/21/79	19	39			0.1		2.0			7.5		240.4
1	8/21/79	19	51			0.1		1.7			7.5		204.3

TABLE G3- 2. FOUR MILE CREEK WATERSHED HERBICIDE CONCENTRATIONS IN RUNOFF WATER AND SEDIMENT FOR 1979 SITE 2

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
2	6/12/79	17	55	301.5	105.7				1158.0	431.0			
2	6/12/79	17	58	311.9	100.7				869.0	419.0			
2	6/12/79	18	1	324.1	116.9				1080.0	375.0			
2	6/12/79	18	2	212.6	83.5				537.0	227.0			
2	6/12/79	18	4	224.4	80.2				677.0	297.0			
2	6/12/79	18	6	194.8	79.1				335.0	171.0			
2	6/12/79	18	7	206.2	83.3				495.0	282.0			
2	6/12/79	18	8	211.8	84.5				540.0	259.0			
2	6/12/79	18	10	227.2	100.4				360.0	213.0			
2	6/12/79	18	14	156.0	66.3				389.0	175.0			
2	6/12/79	18	18	168.8	60.1				477.0*	171.6*			
2	6/12/79	18	24	169.0	62.3				551.0	220.0			
2	6/12/79	18	28	126.0	45.7				514.0	220.0			
2	6/12/79	18	40	129.6	43.4				469.0	237.0			
2	6/12/79	18	45	113.3	42.5				686.0	260.0			
2	6/12/79	18	50	123.0	45.9				605.0	229.0			
2	6/12/79	18	55	131.2	49.6				712.1*	272.6*			
2	6/12/79	19	3	138.4	53.3				751.2*	292.9*			
2	6/12/79	19	8	136.9	53.4				743.1*	293.5*			
2	6/27/79	0	11	30.2	26.6				134.0	120.0			
2	6/27/79	0	12	32.4	21.8				122.0	32.0			
2	6/27/79	0	14	13.6	19.6				84.0	29.0			
2	6/27/79	0	16	10.8	16.5				42.0	27.0			
2	6/27/79	0	20	10.4	14.0				52.0	16.0			
2	6/27/79	0	23	2.7	14.5				53.0	18.0			
2	6/27/79	0	25	9.6	11.9				60.0	20.0			
2	6/27/79	0	27	10.6	11.5				60.0	35.0			
2	6/27/79	0	30	12.0	11.6				73.0	35.0			
2	6/27/79	0	32	8.9	12.1				80.0	13.0			
2	6/27/79	0	34	11.5	11.5				60.0	28.0			
2	6/27/79	0	37	9.7	10.7				56.0	32.0			
2	6/27/79	0	39	11.3	9.1				53.0	30.0			
2	6/27/79	0	41	9.0	9.7				57.0	31.0			
2	6/27/79	0	44	10.1	9.0				56.0	27.0			
2	6/27/79	0	46	6.0	8.1				48.0	35.0			
2	6/27/79	0	48	8.9	7.3				49.0	29.0			
2	6/27/79	0	51	5.4	6.8				60.0	35.0			
2	6/27/79	0	53	7.6	6.8				30.0	27.0			
2	6/27/79	1	1	6.5	7.4				114.0	42.0			
2	6/27/79	1	6	5.8	7.4				109.0	41.0			
2	6/27/79	1	11	7.3	8.8				132.5*	49.3*			
2	6/27/79	1	17	9.0	9.3				163.3*	52.1*			
2	6/27/79	1	21	9.4	10.5				170.6*	58.9*			
2	7/ 3/79	8	0	7.6	5.6				168.6*	36.9*			
2	7/ 3/79	8	4	11.8	5.0*				168.6*	33.0*			
2	7/ 3/79	8	12	8.3	4.4				118.6*	29.0*			
2	7/ 3/79	8	23	8.6	4.8*				130.0	32.0			
2	7/ 3/79	8	30	9.1	5.1				140.0	48.0			
2	7/ 3/79	8	36	8.9	5.5*				127.1*	36.3*			
2	7/ 3/79	8	41	8.0	5.9*				114.3*	38.9*			
2	7/ 3/79	8	45	7.8	6.3*				104.0	14.0			
2	7/ 3/79	8	49	9.2	6.7				83.0	34.0			
2	7/ 3/79	8	50	8.9	6.4*				78.0	18.0			

TABLE G3- 2. CONTINUED

SITE	DATE	HOUR	MIN	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE
				PPB IN WATER					PPB IN SEDIMENT				
2	7/ 3/79	8	52		6.9		6.1*		90.0		11.0		
2	7/ 3/79	8	54		7.9		5.8*		66.2*		26.0		
2	7/ 3/79	8	56		6.8		5.5*		42.0		22.0		
2	7/ 3/79	8	58		5.9		5.2*		62.0		22.0		
2	7/ 3/79	9	0		5.8*		4.9		61.0*		20.0		
2	7/ 3/79	9	2		5.6		5.0		50.0		24.0		
2	7/ 3/79	9	4		7.0		5.2		56.0		18.0		
2	7/ 3/79	9	6		6.1		5.1		46.0		38.0		
2	7/ 3/79	9	8		5.6		4.5		65.0		39.0		
2	7/ 3/79	9	11		5.6		5.5*		52.0		45.0		
2	7/ 3/79	9	13		4.7		6.5		59.0		44.0		
2	7/ 3/79	9	15		4.7		7.3		67.0		42.0		
2	7/ 3/79	9	17		4.4		8.2		62.0		36.0		
2	7/ 3/79	9	19		4.3		8.4		62.0		37.0		
2	7/ 3/79	9	21		4.7		8.4*		53.0		38.0		
2	7/ 3/79	9	23		4.4		8.4		49.0		28.0		
2	7/ 3/79	9	25		4.0		7.4		42.6*		57.0		
2	7/ 3/79	9	27		4.8		8.8		51.2*		56.0		
2	7/ 3/79	9	29		4.6		8.9		47.0		45.0		
2	7/ 3/79	9	32		4.5		8.1		47.0		36.0		
2	7/ 3/79	9	34		4.2		9.1		47.0		65.0		
2	7/ 3/79	9	36		4.6		9.1		54.0		61.0		
2	7/ 3/79	9	38		4.7		10.2		43.0		40.0		
2	7/ 3/79	9	40		4.9		9.5		53.0		42.0		
2	7/ 3/79	9	43		4.8		9.1		56.0		39.0		
2	7/ 3/79	9	45		4.9		8.9		58.0*		48.0		
2	7/ 3/79	9	47		4.5		8.2		54.0		49.0		
2	7/ 3/79	9	49		5.2		8.2*		53.0		35.0		
2	7/ 3/79	9	51		4.0		8.3		43.0		36.0		
2	7/ 3/79	9	53		4.4		8.6		52.0		48.0		
2	7/ 3/79	9	55		4.2		8.3		57.0		44.0		
2	7/ 3/79	9	57		4.3		7.4		48.0		38.0		
2	7/ 3/79	9	59		4.7		7.1		33.0		26.0		
2	7/ 3/79	10	2		4.4		6.8		32.0		29.0		
2	7/ 3/79	10	8		4.4		8.8		30.3*		28.8*		
2	7/ 3/79	10	14		4.2		6.8*		28.9*		28.5*		
2	7/ 3/79	10	19		4.2		6.7*		28.9*		28.4*		
2	7/ 3/79	10	28		4.6		6.7*		31.6*		28.2*		
2	7/ 3/79	20	48		4.7		6.6*		24.0		18.0		
2	7/ 3/79	20	49		4.6		6.6*		30.0		18.0		
2	7/ 3/79	20	50		4.4		6.5*		28.1*		27.6*		
2	7/ 3/79	20	51		4.8		6.5*		30.0		19.0		
2	7/ 3/79	20	53		5.3		6.4*		35.0		20.0		
2	7/ 3/79	21	0		4.1		6.4*		45.0		27.0*		
2	7/ 3/79	21	4		4.7		6.4		59.0		27.0		
2	7/ 3/79	21	10		4.1		6.4*		31.9*		27.0*		
2	7/ 3/79	21	15		4.0		6.4*		38.0		26.0		
2	7/ 3/79	21	20		3.8		6.4*		43.0		37.0		
2	7/ 3/79	21	26		4.2		6.4*		33.0		30.0		
2	7/ 3/79	21	32		4.3		6.4*		33.0		27.0		
2	7/ 3/79	21	39		5.0		6.4*		46.4*		27.0*		
2	7/ 3/79	21	44		4.9		6.4*		45.4*		27.0*		
2	7/ 3/79	21	51		5.0		6.4*		46.4*		27.0*		

TABLE G3- 2. CONTINUED

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
2	7/13/79	9	59		2.4		4.0			23.0		21.0	
2	7/13/79	10	7		4.3		3.4*			33.0		12.0	
2	7/13/79	10	18		2.7		2.7			26.5*		9.1*	
2	7/13/79	20	6		2.6*		4.4			34.0		11.0	
2	7/13/79	20	8		1.7		5.5			118.0		18.0	
2	7/13/79	20	10		1.9		4.0			233.0		24.0	
2	7/13/79	20	12		2.0		3.9			56.0		26.0	
2	7/13/79	20	14		1.4		3.4			38.0		19.0	
2	7/13/79	20	16		2.0		3.4			19.6*		21.0	
2	7/13/79	20	18		2.2		3.5			30.0		31.0	
2	7/13/79	20	20		1.4		3.0			35.0		24.0	
2	7/13/79	20	22		1.4		2.8			36.0		19.0	
2	7/13/79	20	29		2.0		2.9			25.9*		10.8*	
2	7/13/79	20	35		1.9		2.8			24.6*		10.4*	
2	7/13/79	20	38		1.1		2.9			22.4*		10.8*	
2	7/14/79	0	50		1.1		4.3			28.0		11.0	
2	7/14/79	0	52		1.3		4.2			29.0		9.0	
2	7/14/79	0	55		1.3		9.0			16.0		25.0	
2	7/14/79	0	57		1.0		8.7*			21.0		19.0	
2	7/14/79	0	59		1.3		8.4*			24.0		16.0	
2	7/14/79	1	1		1.3		8.1*			30.0		19.0	
2	7/14/79	1	3		1.4		7.8*			25.0		18.0	
2	7/14/79	1	6		1.4		7.5*			22.0		19.0	
2	7/14/79	1	8		1.4		7.3			33.0		22.0	
2	7/14/79	1	11		1.4		6.5*			30.0		7.0	
2	7/14/79	1	16		1.1		5.7*			25.0		16.0	
2	7/14/79	1	21		0.6		4.9			30.0		20.0	
2	7/14/79	1	23		1.0		6.3*			21.3*		11.0	
2	7/14/79	1	25		0.9		7.6			18.0		20.0	
2	7/14/79	1	29		1.1		6.1			14.0		19.0	
2	7/14/79	1	44		0.6		5.9			16.0		19.0	
2	7/14/79	1	49		0.8*		6.7			19.0		22.0	
2	7/14/79	1	53		0.9		2.2			17.0		23.0	
2	7/14/79	2	11		0.8		3.8			20.0		26.0	
2	8/19/79	6	40		0.3		0.5			4.0*		16.0*	
2	8/19/79	6	46		0.3		0.5			4.0*		16.0*	
2	8/19/79	21	4		0.3		0.4			0.0		8.0	
2	8/19/79	21	10		0.2		0.3			2.0*		16.0*	
2	8/19/79	21	16		0.3		0.3			2.0*		16.0*	
2	8/19/79	21	25		0.2		0.2			0.0		16.0	
2	8/19/79	21	33		0.2		0.3			0.0		8.0	
2	8/19/79	21	39		0.2		0.4			2.0*		15.0*	
2	8/19/79	21	48		0.1		0.3			2.0*		14.5*	
2	8/19/79	22	1		0.3		0.5			2.0*		14.0*	
2	8/19/79	22	21		0.3		0.3			0.0		12.0	
2	8/19/79	22	26		0.2		0.2			0.0		13.0	
2	8/19/79	22	34		0.2		0.4			2.0*		13.0*	
2	8/19/79	22	39		0.2		0.3			2.0*		13.0*	
2	8/19/79	23	2		0.3		0.4			2.0*		13.0*	
2	8/21/79	18	49		0.2		0.6			0.0		7.0	
2	8/21/79	18	52		0.2		0.6			0.0		13.0	
2	8/21/79	18	54		0.2		0.8			4.0*		12.4*	
2	8/21/79	18	56		0.1		0.6			2.0*		12.3*	

TABLE G3- 2. CONCLUDED

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
2	8/21/79	19	0	0.1	0.2				0.0	12.0			
2	8/21/79	19	2	0.0	0.2				0.0	10.0			
2	8/21/79	19	4	0.1	0.2				0.0	14.0			
2	8/21/79	19	6	0.1	0.2				0.0	15.0			
2	8/21/79	19	8	0.1	0.2				0.0	16.0			
2	8/21/79	19	11	0.1	0.2				0.0	14.0			
2	8/21/79	19	13	0.1	0.3				0.0	16.0			
2	8/21/79	19	15	0.1	0.2				0.0	17.0			
2	8/21/79	19	18	0.1	0.3				0.0	15.0			
2	8/21/79	19	22	0.1	0.4				2.0*	15.0*			
2	8/21/79	19	27	0.1	0.2				2.0*	15.0*			
2	8/21/79	19	32	0.1	0.5				2.0*	15.0*			
2	8/21/79	19	37	0.1	0.5				2.0*	15.0*			
2	8/21/79	19	48	0.1	0.6				0.0	9.0			
2	8/21/79	19	59	0.1	0.6				2.0*	15.0*			

* Indicates estimated data.

TABLE G3- 3. FOUR MILE CREEK WATERSHED HERBICIDE CONCENTRATIONS IN RUNOFF WATER AND SEDIMENT FOR 1979 SITE 4

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
4	5/ 1/79	17	55	1.1	0.1	0.5	1.2						
4	5/ 2/79	15	17	0.2	0.1	0.3	1.9						
4	5/ 2/79	17	26	0.7	0.1	0.6	1.6						
4	5/ 2/79	21	28	0.5	0.1	0.6	1.8						
4	5/ 3/79	4	50	0.1	0.0	0.4	1.0						
4	5/ 3/79	17	45	0.1	0.1	0.5	1.1						
4	5/ 4/79	17	45	0.2	0.1	0.4	0.7						
4	5/ 5/79	17	31	0.3	0.1	0.5	1.3						
4	5/ 6/79	18	25	0.1	0.1	0.3	1.1						
4	5/ 7/79	22	25	0.1	0.1	0.4	0.9						
4	5/ 8/79	17	22	0.1	0.1	0.3	0.9						
4	5/ 9/79	22	32	0.4	0.1	0.3	1.0						
4	5/10/79	18	1	0.3	0.1	0.3	0.8						
4	5/11/79	17	52	0.1	0.1	0.3	0.8						
4	5/12/79	17	44	0.1	0.1	0.3	0.9						
4	5/13/79	17	17	0.2	0.1	0.3	0.8						
4	5/14/79	17	40	0.1	0.0	0.2	0.8						
4	5/15/79	17	37	0.2	0.0	0.2	0.6						
4	5/16/79	18	1	0.2	0.0	0.2	0.9						
4	5/17/79	17	51	0.3*	0.0*	0.2*	0.8*						
4	5/18/79	17	14	0.4	0.0	0.2	0.7						
4	5/19/79	19	22	0.4*	0.0*	0.2*	1.1*						
4	5/20/79	17	28	0.3	0.0	0.1	1.5						
4	5/21/79	17	37	0.3	0.0	0.1	1.7						
4	5/22/79	18	55	0.5	0.0	0.1	1.5						
4	5/23/79	17	37	0.3	0.0	0.1	1.5						
4	5/24/79	20	6	0.5	0.0	0.2	1.3						
4	5/25/79	17	40	0.3	0.0	0.2	1.5						
4	5/26/79	17	2	0.4	0.0	0.1	1.4						
4	5/27/79	17	12	0.8	0.0	0.1	1.7						
4	5/28/79	17	6	0.1	0.0	0.0	1.3						
4	5/29/79	17	3	0.3	0.0	0.0	1.4						
4	5/30/79	18	54	0.4	0.0	0.0	1.3						
4	5/31/79	17	10	0.4	0.0	0.0	1.7						
4	6/ 1/79	18	17	0.1	0.1	0.0	1.7						
4	6/ 2/79	18	30	0.3	0.0	0.0	1.6						
4	6/ 3/79	17	23	0.2	0.0	0.0	1.3						
4	6/ 4/79	17	21	0.5	0.0	0.0	0.0						
4	6/ 4/79	19	52	0.5	0.0	0.0	0.0						
4	6/ 4/79	20	59	14.2	0.1	0.0	5.0						
4	6/ 4/79	21	52	267.7	0.3	0.0	17.5		789.0	8.0	202.0	481.0	
4	6/ 5/79	0	25	103.3	7.8	0.0	8.8		483.0	23.0	195.0	165.0	
4	6/ 5/79	5	22	14.6	0.5	0.0	9.2						
4	6/ 5/79	13	15	4.1	0.1	0.0	2.0						
4	6/ 5/79	17	7	6.4	0.5	0.0	2.2						
4	6/ 6/79	17	20	1.3	0.2	0.0	1.9						
4	6/ 7/79	17	6	0.9	0.2	0.0	0.0						
4	6/ 8/79	16	58	0.7	0.2	0.1	11.3						
4	6/ 9/79	12	12	1.0	0.0	0.0	3.3						
4	6/ 9/79	15	15	4.1	0.4	0.0	2.8						
4	6/ 9/79	18	1	13.5	3.6	0.3	8.2						
4	6/10/79	17	36	0.6	0.1	0.0	1.8						
4	6/11/79	17	50	0.6	0.1	0.2	0.0						

TABLE G3- 3. CONTINUED

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
4	6/12/79	17	12	1.5	0.4	0.0	0.0						
4	6/12/79	18	24	0.2	0.1	0.0	1.4						
4	6/12/79	19	4	2.6	0.0	0.0	1.8		99.0	13.0	193.0	87.0	
4	6/12/79	19	25	14.1	0.1	0.0	15.3		113.0	11.0	126.0	295.0	
4	6/12/79	20	0	150.2	33.5	0.0	18.7		116.0	12.0	144.0	181.0	
4	6/12/79	21	3	85.2	10.4	0.0	24.1		131.0	13.0	121.0	288.0	
4	6/12/79	21	52	58.6	24.5	1.4	26.4		94.0	6.0	166.0	296.0	
4	6/12/79	23	6	69.9	10.0	0.0	24.6		241.0	20.0	117.0	491.0	
4	6/13/79	0	33	95.9	12.5	0.0	21.3		190.0	20.0	131.0	342.0	
4	6/13/79	1	56	96.0	12.3	0.0	18.3		184.0	18.0	182.0	265.0	
4	6/13/79	4	53	16.9	2.9	0.0	15.4		162.0	17.0	210.0	256.0	
4	6/13/79	8	14	15.8	1.6	0.0	7.9		136.0	17.0	154.0	202.0	
4	6/13/79	13	18	12.0	1.1	0.3	4.9						
4	6/13/79	17	31	8.0	0.8	0.3	4.1						
4	6/14/79	17	21	5.0*	0.5*	0.2*	2.6*						
4	6/15/79	18	16	1.9	0.2	0.0	1.2						
4	6/16/79	17	29	0.9	0.6	0.2	1.6						
4	6/17/79	17	20	0.9	0.4	0.1	1.5						
4	6/18/79	17	26	13.0	1.5	0.8	11.8		116.0	21.0	167.0	270.0	
4	6/19/79	17	16	1.4	0.3	0.0	1.6						
4	6/20/79	0	38	0.9	0.2	0.0	1.5						
4	6/20/79	9	41	14.9	2.8	0.0	4.8						
4	6/20/79	19	27	3.0	0.5	0.0	2.2		198.0	36.0	121.0	195.0	
4	6/21/79	17	50	1.1	0.2	0.0	0.0						
4	6/22/79	17	9	1.0	0.2	0.0	0.0						
4	6/23/79	17	53	0.5	0.3	0.4	0.0						
4	6/24/79	17	20	0.4	0.1	0.0	0.0						
4	6/25/79	18	19	0.4	0.0	0.0	0.0						
4	6/26/79	17	16	0.4	0.1	0.0	0.0						
4	6/27/79	4	35	9.7	1.0	0.0	14.9		74.0	23.0	119.0	154.0	
4	6/27/79	5	32	9.2	1.4	0.0	6.8		80.0	22.0	63.0	129.0	
4	6/27/79	7	40	9.9	1.6	0.0	0.0		134.0	25.0	100.0	141.0	
4	6/27/79	9	42	11.4	1.5	0.0	0.0		233.0	15.0	90.0	168.0	
4	6/27/79	11	46	9.4	1.0	0.0	0.0		107.0	11.0	94.0	138.0	
4	6/27/79	17	54	3.4	0.1	0.0	0.0						
4	6/28/79	9	45	1.1	0.1	0.0	0.0						
4	6/28/79	18	50	1.2	0.1	0.0	0.0						
4	6/29/79	17	57	0.9	0.1	0.0	1.0						
4	6/30/79	18	20	0.7*	0.1*	0.0*	0.9*						
4	7/ 1/79	17	47	0.5	0.1	0.0	0.8						
4	7/ 2/79	17	47	0.4	0.1	0.0	0.8						
4	7/ 3/79	9	4	1.8*	0.6*	0.0*	2.2*		36.0*	11.0*	69.0*	82.0*	
4	7/ 3/79	10	4	1.8	0.6	0.0	2.2		36.0	11.0	69.0	82.0	
4	7/ 3/79	11	6	1.9	0.4	0.4	5.6		44.0	12.0	42.0	103.0	
4	7/ 3/79	12	18	1.5	0.9	0.0	4.1		52.0	13.0	238.0	148.0	
4	7/ 3/79	14	41	1.5	0.9	0.0	4.8		58.0	12.0	178.0	166.0	
4	7/ 3/79	18	30	7.9	1.3	0.0	3.5		95.0	16.0	227.0	158.0	
4	7/ 3/79	21	19	1.5	0.5	0.0	3.7		51.0	12.0	144.0	105.0	
4	7/ 3/79	22	11	1.9	0.2	0.0	2.9		48.0	11.0	112.0	102.0	
4	7/ 3/79	23	43	1.5	1.1	0.0	2.3		52.0	15.0	155.0	95.0	
4	7/ 4/79	0	40	1.1	0.7	0.0	5.4		32.0	14.0	71.0	110.0	
4	7/ 4/79	4	49	1.7	0.6	0.0	1.7		68.0	21.0	120.0	128.0	
4	7/ 4/79	11	20	1.4	0.2	0.0	1.3						

TABLE G3- 3. CONTINUED

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
4	7/ 4/79	18	52	1.0	0.2	0.0	1.1						
4	7/ 5/79	17	47	0.5	0.0	0.0	0.4						
4	7/ 6/79	17	3	0.4	0.0	0.0	0.8						
4	7/ 7/79	18	27	0.3	0.0	0.0	0.3						
4	7/ 8/79	17	58	0.3	0.1	0.0	0.3						
4	7/ 9/79	18	24	0.3	0.0	0.0	0.4						
4	7/10/79	17	51	0.2	0.0	0.0	0.4						
4	7/11/79	17	34	0.2	0.0	0.0	1.2						
4	7/12/79	18	9	0.2	0.0	0.0	0.6						
4	7/13/79	10	51	0.2	0.1	0.0	0.6						
4	7/13/79	17	27	0.3	0.1	0.0	0.7						
4	7/13/79	21	0	0.3	0.1	0.0	0.6						
4	7/13/79	22	0	0.4*	0.1*	0.0*	1.2*						
4	7/14/79	1	58	0.5	0.1	0.0	1.9		31.0	14.0	43.0	70.0	
4	7/14/79	2	58	1.2	0.4	0.0	0.9		42.0	16.0	91.0	100.0	
4	7/14/79	3	34	1.0*	0.4*	0.0*	0.8*		41.0*	15.0*	108.0*	93.0*	
4	7/14/79	4	16	0.9	0.3	0.0	0.8		40.0	14.0	124.0	86.0	
4	7/14/79	5	34	0.9	0.3	0.0	1.1		54.0	15.0	117.0	109.0	
4	7/14/79	5	50	1.0*	0.3*	0.0*	1.2*		69.0*	18.0*	121.0*	114.0*	
4	7/14/79	9	6	1.2	0.4	0.0	1.2		84.0	22.0	125.0	118.0	
4	7/14/79	17	38	0.5*	0.1*	0.0*	1.3*						
4	7/15/79	18	39	0.2	0.1	0.0	1.1						
4	7/16/79	17	9	0.1	0.1	0.0	0.7						
4	7/17/79	18	30	0.2	0.1	0.0	0.7						
4	7/18/79	17	41	0.2	0.1	0.0	0.6						
4	7/19/79	17	12	0.1	0.1	0.0	0.5						
4	7/20/79	16	49	0.1	0.1	0.0	1.3						
4	7/21/79	17	17	0.1	0.1	0.0	0.5						
4	7/22/79	17	42	0.1	0.1	0.0	0.5						
4	7/23/79	17	52	0.1	0.1	0.0	0.6						
4	7/24/79	18	7	0.1	0.1	0.0	0.8						
4	7/25/79	17	53	0.2	0.1	0.0	0.5						
4	7/26/79	17	2	0.1	0.1	0.0	0.6						
4	7/27/79	17	50	0.1	0.1	0.0	0.9						
4	7/28/79	18	5	0.2	0.1	0.0	0.8						
4	7/29/79	18	11	0.1	0.1	0.0	1.0						
4	7/30/79	18	11	0.1	0.1	0.0	0.9						
4	7/31/79	17	23	0.1	0.0	0.0	0.9						
4	8/ 1/79	17	58	0.1	0.1	0.0	1.1						
4	8/ 2/79	18	7	0.1	0.1	0.0	1.0						
4	8/ 3/79	17	38	0.1	0.1	0.0	1.3						
4	8/ 4/79	18	20	0.1	0.1	0.0	1.0						
4	8/ 5/79	17	47	0.1	0.1	0.0	1.1						
4	8/ 6/79	18	7	0.1	0.1	0.0	2.0						
4	8/ 7/79	17	38	0.1	0.1	0.0	1.2						
4	8/ 8/79	17	51	0.1	0.1	0.0	1.2						
4	8/ 9/79	17	55	0.1*	0.1*	0.0*	1.2*						
4	8/10/79	17	29	0.1	0.1	0.0	1.2						
4	8/11/79	18	7	0.1	0.1	0.0	1.0*						
4	8/12/79	17	36	0.4	0.0	0.1	0.7						
4	8/13/79	17	47	0.4	0.0	0.1	0.6						
4	8/14/79	17	28	0.4	0.0	0.0	0.0						
4	8/15/79	17	32	0.4	0.0	0.0	0.0						

TABLE G3- 3. CONTINUED

SITE	DATE	HOUR	MIN	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE
				PPB IN WATER					PPB IN SEDIMENT				
4	8/16/79	18	18	0.0	0.1	0.0	0.0						
4	8/17/79	17	59	0.4	0.0	0.1	0.9						
4	8/18/79	17	9	0.4	0.0	0.0	0.9						
4	8/19/79	7	40	0.4	0.0	0.0	0.8		45.0	9.0	34.0	70.0	
4	8/19/79	9	7	0.6	0.1	0.0	1.0		52.0	9.0	35.0	76.0	
4	8/19/79	11	32	0.4	0.1	0.1	1.2		109.0	27.0	75.0	122.0	
4	8/19/79	14	30	0.6	0.1	0.0	1.1		106.0	30.0	76.0	113.0	
4	8/19/79	17	52	0.8	0.1	0.0	0.0						
4	8/19/79	22	40	0.5	0.0	0.0	0.0						
4	8/19/79	23	50	0.5	0.0	0.0	0.0		48.0	12.0	34.0	49.0	
4	8/20/79	1	28	0.6	0.1	0.0	0.0		54.0	12.0	32.0	58.0	
4	8/20/79	5	40	0.6	0.1	0.0	0.0		93.0	22.0	54.0	89.0	
4	8/20/79	11	12	0.6	0.1	0.0	0.0						
4	8/20/79	11	44	0.3*	0.1*	0.0*	0.0*						
4	8/20/79	17	52	0.0	0.0	0.0	0.0						
4	8/21/79	18	1	0.0	0.0	0.0	0.0						
4	8/21/79	19	31	0.1	0.0	0.1	0.1		82.0	24.0	62.0	58.0	
4	8/21/79	20	17	0.0	0.0	0.0	0.0		65.0	11.0	26.0	58.0	
4	8/21/79	21	39	0.0	0.0	0.0	0.0		56.0	15.0	29.0	56.0	
4	8/21/79	22	56	0.2	0.0	0.0	0.3		63.0	12.0	51.0	33.0	
4	8/22/79	1	34	0.5	0.0	0.0	0.4		56.0	16.0	31.0	68.0	
4	8/22/79	5	34	0.2	0.0	0.0	0.3						
4	8/22/79	10	55	0.2	0.0	0.0	0.3						
4	8/22/79	17	37	0.2	0.0	0.0	0.3						
4	8/23/79	18	7	0.2	0.0	0.0	0.3						
4	8/24/79	17	50	0.0	0.0	0.0	0.0						
4	8/25/79	18	27	0.1	0.0	0.0	0.0						
4	8/26/79	17	51	0.1	0.0	0.0	0.0						
4	8/27/79	18	27	0.1	0.0	0.0	0.3						
4	8/28/79	17	36	0.2	0.0	0.0	0.0						
4	8/29/79	18	21	0.1	0.0	0.0	0.3						
4	8/30/79	17	27	0.2	0.0	0.0	0.0						
4	8/31/79	19	22	0.0	0.0	0.0	0.0						
4	9/ 1/79	17	48	0.0	0.1	0.1	0.6						
4	9/ 2/79	17	57	0.0	0.1	0.2	0.2						
4	9/ 3/79	17	35	0.0	0.1	0.0	0.7						
4	9/ 4/79	18	52	0.1	0.1	0.1	0.7						
4	9/ 5/79	18	2	0.0	0.1	0.1	0.6						
4	9/ 6/79	18	3	0.0	0.1	0.2	0.6						
4	9/ 7/79	18	15	0.0	0.1	0.1	0.6						
4	9/ 8/79	18	11	0.1	0.1	0.1	0.6						
4	9/ 9/79	18	21	0.0	0.1	0.1	0.6						
4	9/10/79	18	58	0.0	0.1	0.1	0.6						
4	9/11/79	17	39	0.1	0.1	0.1	0.5						
4	9/12/79	18	20	0.1	0.1	0.1	0.6						
4	9/13/79	17	17	0.0	0.1	0.1	0.5						
4	9/14/79	17	18	0.0	0.1	0.1	0.6						
4	9/15/79	17	30	0.0	0.1	0.2	0.5						
4	9/16/79	17	10	0.0	0.1	0.1	0.5						
4	9/17/79	17	29	0.1	0.0	0.1	0.1						
4	9/18/79	17	29	0.2	0.0	0.1	0.1						
4	10/22/79	7	12	0.5	0.0	0.1	0.2						
4	10/22/79	11	23	0.4*	0.1*	0.2*	0.2*		53.0*	21.0*	35.0*	89.0*	

TABLE G3- 3. CONCLUDED

SITE	DATE	HOUR	MIN	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE
				PPB IN WATER					PPB IN SEDIMENT				
4	10/22/79	12	57	0.4	0.1	0.3	0.2		55.0	15.0	37.0	34.0	
4	10/22/79	20	0	0.3*	0.1*	0.3*	0.2*		113.0*	23.0*	81.0*	104.0*	
4	10/23/79	9	29	0.2	0.0	0.4	0.2						
4	10/24/79	9	34	0.1	0.0	0.2	0.1						
4	10/24/79	17	40	0.1	0.0	0.1	0.2						
4	10/25/79	18	16	0.2	0.0	0.1	0.2						
4	10/26/79	18	22	0.4	0.0	0.2	0.1						
4	10/27/79	17	58	0.1	0.0	0.3	0.1						
4	10/28/79	17	43	0.1	0.0	0.2	0.1						
4	10/29/79	18	15	0.1	0.0	0.2	0.1						

*Indicates estimated data.

TABLE G3- 4. FOUR MILE CREEK WATERSHED HERBICIDE CONCENTRATIONS IN RUNOFF WATER AND SEDIMENT FOR 1980 SITE 1

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
1	5/29/80	7	40	343.2	88.8				301.0	151.0			
1	5/29/80	7	45	417.0	133.7				260.0	165.0			
1	5/29/80	7	50	315.9	100.8				342.0	173.0*			
1	5/29/80	7	55	405.8	145.8				425.0*	250.0*			
1	5/29/80	8	0	486.7	182.9				510.0*	313.0*			
1	5/29/80	8	5	568.0	213.8				595.0*	366.0*			
1	5/29/80	8	10	577.1	219.5				605.0*	376.0*			
1	5/29/80	8	35	104.3	27.1				343.0	76.0			
1	5/29/80	8	39	264.8	76.2				511.0	199.0			
1	5/29/80	8	44	319.6	86.8				415.0	248.0			
1	5/29/80	8	49	346.3	101.2				512.0	286.0			
1	5/29/80	8	49	329.9	95.3				473.0	195.0			
1	5/29/80	8	54	359.9	103.3				358.0	245.0			
1	5/30/80	1	37	99.6	34.3				117.0*	75.0*			
1	5/30/80	1	42	108.4	36.6				127.0*	80.0*			
1	5/30/80	1	47	114.0	37.9				134.0*	83.0*			
1	5/30/80	1	52	131.1	46.1				154.0*	101.0*			
1	5/30/80	1	57	148.9	49.1				175.0*	108.0*			
1	6/ 2/80	17	7	36.0	16.3				72.0	28.0			
1	6/ 2/80	17	9	38.6	16.9				100.0	32.0			
1	6/ 2/80	17	18	74.8	34.4				169.0*	89.0*			
1	6/ 2/80	17	23	67.9	28.2				153.0*	73.0*			
1	6/ 2/80	17	26	64.0	28.3				336.0	116.0			
1	6/ 2/80	17	27	58.6	25.2				132.0*	76.0*			
1	6/ 2/80	17	29	55.0	23.1				124.0*	70.0*			
1	6/ 2/80	17	35	59.3	24.2				134.0*	73.0*			
1	6/ 2/80	17	36	57.7	23.6				130.0*	71.0*			
1	6/ 2/80	17	40	60.3	23.2				136.0*	70.0*			
1	6/ 2/80	17	42	58.4	24.5				132.0*	74.0*			
1	6/ 2/80	17	45	60.7	23.9				137.0*	72.0*			
1	6/ 2/80	17	47	60.9	24.6				137.0*	74.0*			
1	6/ 2/80	17	49	60.6	24.6				137.0*	74.0*			
1	6/ 2/80	17	55	63.3	25.8				143.0*	78.0*			
1	6/ 2/80	18	0	63.6	26.3				144.0*	79.0*			
1	6/ 2/80	18	5	50.8	22.2				115.0*	67.0*			
1	6/ 2/80	18	11	47.8	19.3				108.0*	58.0*			
1	6/ 2/80	18	16	56.5	23.2				128.0*	70.0*			
1	6/ 2/80	18	21	57.4	24.9				130.0*	75.0*			
1	6/ 2/80	18	27	58.6	25.7				132.0*	77.0*			
1	6/ 6/80	18	54	53.5	28.1				115.0	67.0			
1	6/ 6/80	19	2	46.3	59.7				105.0*	208.0*			
1	6/ 7/80	5	9	36.2	16.0				138.0	103.0			
1	6/ 7/80	5	11	45.6	19.1				189.0	114.0			
1	6/ 7/80	5	17	53.0	20.7				157.0*	72.0*			
1	6/ 7/80	5	23	50.2	22.6				178.0	79.0			
1	6/ 7/80	5	34	60.6	24.3				179.0*	85.0*			
1	6/13/80	21	37	31.3	15.4				72.0	55.0			
1	6/13/80	21	48	24.6	11.5				59.0	44.0			
1	6/13/80	21	54	40.7	17.6				96.0*	63.0*			
1	6/15/80	3	33	11.9	8.2				28.0*	29.0*			
1	6/15/80	3	48	11.2	8.0				26.0*	29.0*			
1	6/15/80	3	59	11.1	9.0				26.0*	32.0*			
1	8/ 6/80	1	59	9.6	3.4				0.0	5.0			

TABLE G3- 4. CONCLUDED

SITE	DATE	HOUR	MIN	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE
				PPB IN WATER					PPB IN SEDIMENT				
1	8/11/80	4	37		0.4		5.8				0.0		3.0
1	8/11/80	4	53		0.3		4.8				0.0*		3.0*

*Indicates estimated data.

TABLE G3- 5. FOUR MILE CREEK WATERSHED HERBICIDE CONCENTRATIONS IN RUNOFF WATER AND SEDIMENT FOR 1980 SITE 2

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
2	5/29/80	7	37			84.0	79.0				377.0	4699.0	
2	5/29/80	7	39			51.9	101.8				377.0	3520.0	
2	5/29/80	7	41			45.2	107.9				366.0	3455.0	
2	5/29/80	7	43			19.6	97.8				285.0	4435.0	
2	5/29/80	7	45			17.5	93.0				230.0*	2976.0*	
2	5/29/80	7	47			40.7	97.6				534.0*	3104.0*	
2	5/29/80	7	49			30.0	98.8				393.0*	3162.0*	
2	5/29/80	7	51			35.0*	103.0				456.0*	3296.0*	
2	5/29/80	7	53			39.7*	98.6				520.0*	3155.0*	
2	5/29/80	7	55			44.5	101.8				584.0*	3257.0*	
2	5/29/80	7	57			23.0	91.2				302.0*	2918.0*	
2	5/29/80	7	59			29.0*	117.1				379.0*	3747.0*	
2	5/29/80	8	1			35.0*	125.0				457.0*	4000.0*	
2	5/29/80	8	8			40.8	94.6				535.0*	3027.0*	
2	5/29/80	8	13			34.5	94.5				452.0*	3024.0*	
2	5/29/80	8	18			19.0	84.6				249.0*	2707.0*	
2	5/29/80	8	23			26.6	98.4				349.0*	3149.0*	
2	5/29/80	8	28			15.4	89.9				180.0	2875.0	
2	5/29/80	8	33			16.3*	88.3				181.0*	2706.0*	
2	5/29/80	8	35			17.2*	82.4				182.0*	1669.0	
2	5/29/80	8	37			18.2	89.5				183.0	1590.0	
2	5/29/80	8	39			24.0	107.2				182.0	1955.0	
2	5/29/80	8	41			17.1	91.4				154.0	2311.0	
2	5/29/80	8	43			4.5	114.0				140.0	2414.0	
2	5/29/80	8	45			3.4	79.4				197.0	2659.0	
2	5/29/80	8	47			5.1	58.0				126.0	2254.0	
2	5/29/80	8	49			3.9	83.4				132.0	3499.0	
2	5/29/80	8	51			0.3	76.8				133.0*	2630.0*	
2	5/29/80	8	53			0.0	83.4				134.0*	2856.0*	
2	5/29/80	8	55			0.2	79.2				135.0*	2712.0*	
2	5/29/80	9	5			0.2	70.0				136.0*	2397.0*	
2	5/29/80	9	10			0.0	85.5				137.0*	2928.0*	
2	5/29/80	9	17			26.7	82.8				138.0*	2836.0*	
2	5/29/80	9	24			33.1	86.3				139.0*	2956.0*	
2	5/29/80	9	30			32.1	61.6				140.0*	2110.0*	
2	5/29/80	9	40			0.0	89.8				141.0*	3075.0*	
2	5/29/80	9	45			26.5	76.0				142.0*	2603.0*	
2	5/29/80	9	50			29.0	78.8				143.0*	2699.0*	
2	5/29/80	9	55			5.2	66.1				144.0*	2264.0*	
2	5/30/80	1	33			0.3	111.6				145.0	2962.0	
2	5/30/80	1	38			0.2	276.5				111.0	2765.0	
2	5/30/80	1	40			0.1	93.1				162.0	2277.0	
2	5/30/80	1	42			0.1	80.6				147.0*	1971.0*	
2	5/30/80	1	44			0.2	91.4				147.0*	2235.0*	
2	5/30/80	1	48			0.2	121.9				147.0*	2981.0*	
2	5/30/80	1	54			0.2	100.6				147.0*	2460.0*	
2	5/30/80	1	59			0.2	100.6				147.0*	2458.0*	
2	5/30/80	2	4			0.3	100.6*				147.0*	2458.0*	
2	5/30/80	2	9			0.2	100.6*				147.0*	2458.0*	
2	5/30/80	2	14			0.3	100.6*				147.0*	2458.0*	
2	5/30/80	2	19			0.1	100.6*				147.0*	2458.0*	
2	5/30/80	2	24			0.1	100.6*				147.0*	2458.0*	
2	6/ 2/80	17	2			0.2	72.1				132.0	2150.0	

TABLE G3- 5. CONTINUED

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
2	6/ 2/80	17	4			0.3	86.1				126.0	1570.0	
2	6/ 2/80	17	6			0.2	85.0				120.0	1732.0	
2	6/ 2/80	17	8			0.2	80.6				56.0	1892.0	
2	6/ 2/80	17	10			0.2	86.7				111.0	1829.0	
2	6/ 2/80	17	13			0.2	88.3*				68.0	1943.0*	
2	6/ 2/80	17	15			0.1	89.8*				69.0	1856.0*	
2	6/ 2/80	17	17			0.1	91.4*				61.0	1869.0*	
2	6/ 2/80	17	19			0.3	92.9*				98.0	1883.0*	
2	6/ 2/80	17	21			0.3	94.5*				63.0	1896.0*	
2	6/ 2/80	17	24			0.2	96.0*				103.0	1909.0*	
2	6/ 2/80	17	26			0.1	97.6*				103.0	1923.0*	
2	6/ 2/80	17	28			0.3	99.1*				116.0	1936.0*	
2	6/ 2/80	17	30			0.1	100.7*				133.0	1949.0*	
2	6/ 2/80	17	32			0.1	102.3*				156.0	1963.0*	
2	6/ 2/80	17	35			0.2	103.8				148.0*	1976.0*	
2	6/ 2/80	17	37			0.2	106.6				140.0*	2029.0*	
2	6/ 2/80	17	39			0.1	107.3				132.0*	2042.0*	
2	6/ 2/80	17	41			0.3	100.9				125.0*	1920.0*	
2	6/ 2/80	17	43			0.4	101.5				117.0*	1932.0*	
2	6/ 2/80	17	46			0.1	106.1				109.0*	2019.0*	
2	6/ 2/80	17	51			0.0	100.1				101.0*	1905.0*	
2	6/ 2/80	17	56			0.1	134.3				94.0*	2556.0*	
2	6/ 2/80	18	1			0.0	96.1*				86.0*	1829.0*	
2	6/ 2/80	18	7			0.0	135.7				78.0*	2583.0*	
2	6/ 2/80	18	12			0.4	141.0				70.0*	2684.0*	
2	6/ 2/80	18	14			0.3	103.6				63.0*	1972.0*	
2	6/ 2/80	18	16			0.1	109.0				55.0*	2075.0*	
2	6/ 2/80	18	19			0.2	80.2				47.0*	1526.0*	
2	6/ 2/80	18	24			0.3	121.7				40.0*	2316.0*	
2	6/ 6/80	18	51			0.5	101.3				32.0	1719.0	
2	6/ 6/80	18	55			0.5	92.2				56.0	1931.0	
2	6/ 6/80	18	56			0.6	83.2				116.0	2348.0	
2	6/ 6/80	18	57			0.5	94.5				109.0	2276.0	
2	6/ 6/80	18	59			0.6	95.9				51.0	2246.0	
2	6/ 6/80	19	1			0.8	75.8				167.0	2640.0	
2	6/ 6/80	19	5			0.9	74.5				155.0	2460.0	
2	6/ 6/80	19	8			0.5	90.8				160.0	2297.0	
2	6/ 6/80	19	10			0.7	76.0				57.0	2737.0	
2	6/ 6/80	19	20			0.8	80.4				50.0*	2393.0*	
2	6/ 7/80	5	3			0.3	78.5				44.0	1844.0	
2	6/ 7/80	5	5			0.4	100.3				46.0	1759.0	
2	6/ 7/80	5	7			0.5	100.5				100.0	1465.0	
2	6/ 7/80	5	9			0.8	123.0				126.0	1823.0	
2	6/ 7/80	5	11			0.4	128.6				233.0	1911.0	
2	6/ 7/80	5	14			0.6	81.3				75.0	2123.0	
2	6/ 7/80	5	16			0.6	176.9				53.0	2243.0	
2	6/ 7/80	5	18			0.9	194.9				59.0*	2569.0	
2	6/ 7/80	5	20			0.6	108.4				65.0	2593.0	
2	6/ 7/80	5	26			0.5	73.3				50.0	2679.0	
2	6/ 7/80	5	38			0.4	91.5				62.0*	2591.0*	
2	6/13/80	21	34			0.6	89.9				73.0	1806.0	
2	6/13/80	21	37			0.8	95.9				16.0	1177.0	
2	6/13/80	21	39			0.7	84.0				34.0	1500.0	

TABLE G3- 5. CONCLUDED

SITE	DATE	HOUR	MIN	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE
				PPB IN WATER					PPB IN SEDIMENT				
2	6/13/80	21	42			0.7	80.0				70.0	1557.0	
2	6/13/80	21	44			0.8	83.1				88.0	1796.0	
2	6/13/80	21	47			0.9	85.8				29.0	1776.0	
2	6/13/80	21	49			0.6	83.7				35.0	1736.0	
2	6/13/80	21	52			0.7	75.0				80.0	1903.0	
2	6/13/80	21	54			0.8	68.6				107.0*	1447.0*	
2	6/13/80	21	57			0.8	72.0				107.0*	1519.0*	
2	6/13/80	21	59			0.8	64.9				107.0*	1369.0*	
2	6/13/80	22	2			0.9	69.6				120.0*	1258.0*	
2	6/13/80	22	8			0.8	66.0				107.0*	1393.0*	
2	6/13/80	22	14			0.7	74.4				94.0*	1570.0*	
2	6/13/80	22	20			0.6	60.8				80.0*	1283.0*	
2	6/15/80	3	22			1.0	46.3				134.0*	779.0	
2	6/15/80	3	25			0.3	63.7				76.0	758.0	
2	6/15/80	3	28			0.7	58.5				107.0	1033.0	
2	6/15/80	3	31			0.8	46.7				82.0*	1023.0	
2	6/15/80	3	34			0.7	55.9				36.0	1189.0	
2	6/15/80	3	37			0.4	50.5				32.0	1168.0	
2	6/15/80	3	40			0.4	47.5				33.0*	1212.0	
2	6/15/80	3	43			0.7	45.4				58.0*	1104.0*	
2	6/15/80	3	46			0.4	45.5				33.0*	1107.0*	
2	6/15/80	3	49			0.7	40.2				58.0*	978.0*	
2	6/15/80	3	52			0.6	54.4				50.0*	1323.0*	
2	6/15/80	3	58			0.6	49.1				50.0*	1194.0*	
2	6/15/80	4	6			0.5	56.1				42.0*	1364.0*	
2	6/15/80	4	14			0.7	71.2				58.0*	1732.0*	
2	8/ 6/80	1	58			0.6	5.2				52.0	306.0	
2	8/ 6/80	2	5			0.0	3.0				38.0	256.0	
2	8/ 6/80	2	10			0.0	3.0				0.0*	216.0*	
2	8/ 6/80	2	14			0.0	3.0				0.0*	216.0*	
2	8/ 6/80	2	17			0.0	2.6				0.0*	187.0*	
2	8/ 6/80	2	21			0.0	2.2				0.0*	159.0*	
2	8/ 6/80	2	23			0.0	2.4				0.0*	173.0*	
2	8/ 6/80	2	27			0.0	2.7				0.0*	195.0*	
2	8/ 6/80	2	32			0.0	2.7				0.0*	195.0*	
2	8/ 6/80	2	38			0.0	3.2				0.0*	231.0*	
2	8/11/80	4	35			0.4	2.8				35.0*	202.0*	
2	8/11/80	4	39			0.4	2.4				35.0*	173.0*	
2	8/11/80	4	43			0.0	2.3				0.0*	166.0*	
2	8/11/80	4	47			0.0	2.5				0.0*	180.0*	
2	8/11/80	4	54			0.0	2.8				0.0*	202.0*	
2	8/11/80	4	59			0.0	3.1				0.0*	223.0*	

*Indicates estimated data.

TABLE G3- 6. FOUR MILE CREEK WATERSHED HERBICIDE CONCENTRATIONS IN RUNOFF WATER AND SEDIMENT FOR 1980 SITE 4

SITE	DATE	HOUR	MIN	ALACHLOR (PPB IN WATER)	METRIBUZIN (PPB IN WATER)	PROPACHLOR (PPB IN WATER)	CYANAZINE (PPB IN WATER)	ATRAZINE (PPB IN WATER)	ALACHLOR (PPB IN SEDIMENT)	METRIBUZIN (PPB IN SEDIMENT)	PROPACHLOR (PPB IN SEDIMENT)	CYANAZINE (PPB IN SEDIMENT)	ATRAZINE (PPB IN SEDIMENT)
4	5/ 8/80	17	30	0.0	0.1	0.3	0.0						
4	5/13/80	18	11	0.6	0.2	0.4	0.0						
4	5/21/80	17	25	0.4	0.1	0.1	0.0						
4	5/27/80	23	38	0.3	0.1	0.3	0.0						
4	5/28/80	4	30	144.4	0.5	0.0	20.7		1044.0	34.8	21.0	632.0	
4	5/28/80	9	28	188.1	0.6	0.0	22.1		17.0	26.0	0.0	264.0	
4	5/28/80	12	19	125.2	0.4	0.9	5.5		961.0	103.0	583.0	1470.0	
4	5/28/80	17	3	52.5	1.2	0.0	12.7						
4	5/28/80	21	55	44.5	0.4	0.7	5.9						
4	5/29/80	8	7	43.6	0.2	0.8	3.6						
4	5/29/80	9	21	32.5	0.2	0.6	3.3						
4	5/29/80	10	25	30.2	0.2	0.3	3.7						
4	5/29/80	11	44	68.9	1.2	1.0	38.3		687.0	32.0	0.0	526.0	
4	5/29/80	13	0	59.0	1.7	0.0	21.5		79.0	27.0	41.0	342.0	
4	5/29/80	13	50	78.5	1.5	0.0	18.7		271.0	33.0	0.0	402.0	
4	5/29/80	14	57	64.9	1.7	1.0	16.2		456.0	34.0	28.0	397.0	
4	5/29/80	16	7	73.3	1.8	0.0	18.3		788.0	36.0	48.0	422.0	
4	5/29/80	18	29	47.1	1.6	0.0	15.9		676.0	32.0	33.0	404.0	
4	5/30/80	0	15	34.0	0.6	0.7	10.3		477.0	23.0	0.0	0.0	
4	5/30/80	7	32	34.6	1.4	0.8	18.3		178.0	18.0	12.0	345.0	
4	5/30/80	9	52	39.1	2.0	0.6	10.3		366.0	27.0	14.0	274.0	
4	5/30/80	11	52	37.2	1.5	0.5	10.3		330.0	24.0	10.0	269.0	
4	5/30/80	17	15	32.6	0.4	0.2	5.1		366.0	23.0	0.0	1370.0	
4	5/30/80	22	1	28.1	0.3	0.2	3.8						
4	5/31/80	17	5	20.1	0.3	0.0	1.6						
4	6/ 1/80	8	31	12.5	0.3	0.0	2.0						
4	6/ 1/80	17	45	7.3	0.2	0.0	2.4						
4	6/ 2/80	17	4	5.0	0.2	0.0	1.5						
4	6/ 2/80	18	52	28.2	0.2	0.2	12.3		114.0	9.0	9.0	200.0	
4	6/ 2/80	20	11	22.7	0.2	0.7	7.4		115.0	9.0	14.0	198.0	
4	6/ 2/80	21	6	22.9	1.4	0.6	19.8		121.0	21.0	0.0	403.0	
4	6/ 2/80	21	49	27.3	1.0	0.7	17.3		116.0	15.0	9.0	301.0	
4	6/ 2/80	22	43	25.2	1.1	0.6	11.9		166.0	19.0	25.0	315.0	
4	6/ 3/80	1	20	28.9	1.3	0.7	10.8		170.0	18.0	0.0	376.0	
4	6/ 3/80	5	5	20.1	0.7	0.3	8.0		139.0	17.0	14.0	222.0	
4	6/ 3/80	9	30	15.7	0.3	0.2	6.2						
4	6/ 3/80	18	20	9.3	0.2	0.0	3.6						
4	6/ 4/80	17	5	5.7	0.2	0.0	1.8						
4	6/ 5/80	17	37	1.6	0.1	0.0	1.3						
4	6/ 6/80	19	58	1.1	0.1	0.0	1.4						
4	6/ 7/80	7	11	25.9	0.2	0.0	3.2						
4	6/ 7/80	9	11	9.6	0.2	0.0	3.8		112.0	19.0	0.0	468.0	
4	6/ 7/80	12	6	23.7	0.4	0.2	12.4		125.0	12.0	38.0	254.0	
4	6/ 7/80	15	27	28.7	1.0	0.0	5.8		314.0	43.0	25.0	638.0	
4	6/ 7/80	22	22	11.0	0.4	0.0	6.0						
4	6/ 8/80	7	42	2.4	0.2	0.1	1.6						
4	6/ 8/80	17	14	1.4	0.1	0.0	1.4						
4	6/ 9/80	17	0	1.1	0.1	0.0	1.2						
4	6/10/80	17	0	1.6	0.1	0.0	1.1						
4	6/11/80	17	20	1.4	0.0	0.0	0.8						
4	6/12/80	17	5	1.4	0.0	0.0	0.9						
4	6/13/80	17	2	1.4	0.0	0.0	1.0						
4	6/13/80	23	25	92.8	0.1	0.1	2.4						

TABLE G3- 6. CONCLUDED

SITE	DATE	HOUR	MIN	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE	ALACHLOR	METRIBUZIN	PROPACHLOR	CYANAZINE	ATRAZINE
				PPB IN WATER					PPB IN SEDIMENT				
4	6/14/80	1	10	9.0	8.3	0.0	1.8		199.0	54.0	85.0	308.0	
4	6/14/80	4	34	68.2	0.4	0.1	12.8		216.0	23.0	36.0	265.0	
4	6/14/80	8	14	20.4	0.4	0.0	7.0		149.0	36.0	60.0	468.0	
4	6/14/80	17	37	6.5	0.3	0.0	2.4		184.0*	36.0*	58.0*	385.0*	
4	6/15/80	4	28	9.8	0.1	0.0	1.7		220.0	37.0	56.0	302.0	
4	6/15/80	6	35	24.4	0.3	0.0	8.5		131.0	18.0	35.0	148.0	
4	6/15/80	8	53	208.7	3.8	0.0	53.9		65.0	25.0	24.0	132.0	
4	6/15/80	12	25	13.1	0.3	0.0	4.0		145.0	23.0	33.0	122.0	
4	6/15/80	17	23	11.7	0.3	0.0	2.6						
4	6/16/80	17	14	1.7	0.1	0.0	0.9						
4	6/17/80	17	23	0.6	0.2	0.0	1.4						
4	6/18/80	18	17	0.5	0.1	0.0	1.2						
4	6/20/80	17	48	0.5	0.1	0.0	1.3						
4	6/21/80	17	13	0.4	0.1	0.0	1.3						
4	6/23/80	17	36	0.5	0.1	0.0	1.2						
4	6/25/80	17	43	0.4	0.1	0.0	1.5						
4	6/27/80	17	22	0.5	0.1	0.0	1.6						
4	6/29/80	18	26	0.4	0.1	0.0	1.3						
4	7/ 1/80	18	10	0.4	0.0	0.0	1.2						
4	7/ 3/80	18	10	0.4	0.1	0.0	1.1						
4	7/ 5/80	19	25	0.3	0.1	0.0	1.1						
4	7/ 7/80	17	46	2.1	0.8	0.0	6.1						
4	7/ 9/80	17	21	2.2	0.1	0.0	1.3						
4	7/13/80	20	0	0.3	0.1	0.0	1.1						
4	7/15/80	18	35	0.3	0.1	14.6	1.0						
4	7/19/80	17	1	0.2	0.1	0.0	0.0						
4	7/21/80	17	36	0.0	0.0	0.0	0.0						
4	8/ 4/80	17	23	0.0	0.0	0.0	0.0						
4	8/ 6/80	3	5	0.5	0.0	0.1	1.4		0.0	0.0	3.0	106.0	
4	8/ 6/80	3	57	0.5	0.0	0.2	1.2		0.0	0.0	0.0	86.0	
4	8/ 6/80	5	30	0.6	0.0	0.3	1.3		0.0	0.0	0.0	103.0	
4	8/ 6/80	8	7	0.9	0.1	0.4	1.6		82.0	20.0	13.0	0.0	
4	8/ 6/80	11	7	1.0	0.2	0.2	1.2		0.0	0.0	115.0	149.0	
4	8/ 6/80	14	21	0.9	0.1	0.0	1.2						
4	8/ 6/80	17	25	0.7	0.1	0.5	1.2						
4	8/ 7/80	9	11	0.2	0.0	3.0	1.3						
4	8/11/80	5	39	0.5	0.0	0.0	1.4						
4	8/11/80	7	46	0.3	0.0	0.0	1.4		99.0	0.0	21.0	0.0	
4	8/11/80	9	47	0.7	0.1	0.0	0.0		0.0	0.0	0.0	0.0	
4	8/11/80	11	41	0.9	0.3	0.0	1.3		0.0	0.0	0.0	0.0	
4	8/11/80	13	55	0.6	0.2	0.0	0.9						

*Indicates estimated data.

APPENDIX H

WATERSHED INSTRUMENTATION, FIELD OPERATIONS AND SOIL SAMPLING SCHEDULES

WATERSHED INSTRUMENTATION AND FIELD OPERATIONS

1979

March 5	-	Snowmelt runoff began in the watershed. Gaging stations were prepared to measure runoff.
March 16-20	-	Snowmelt runoff was sampled.
March 28-30	-	Light rain occurred in the watershed, and snowmelt runoff was sampled.
April 5	-	The weather station at the cooperator's farm was opened.
April 13	-	Opening of the rain gages was completed.
April 18	-	Fertilizer was spread at site 2.
	-	The farmer began moldboard plowing at site 2.
April 23	-	The farmer completed plowing at site 2.
April 27	-	Measurement of creek cross sections was begun.
May 4	-	Fertilizer was spread at sites 1 and 3.
	-	Measurement of creek cross sections was completed.
May 7	-	Site 1 was planted to corn.
May 8	-	Herbicides were applied to site 1 and pesticide sampling began.
May 19	-	Site 2 was planted to soybeans.
May 21	-	Herbicides were applied to site 2 and pesticide sampling began.
June 12	-	A runoff event occurred in the watershed.
June 14	-	Aerial photographs of Four Mile Creek watershed were taken.
June 16	-	The farmer replanted soybeans at site 2.
June 27	-	A runoff event occurred in the watershed.
June 29	-	The soybean field at site 2 was cultivated by the farmer.

1979

July 3	-	A runoff event occurred in the watershed.
July 12	-	Creek cross sections 1 to 4 were measured.
July 13-14	-	Runoff events occurred in the watershed.
July 20	-	The soybean field at site 2 was cultivated by the farmer.
August 8-9	-	Creek cross sections 5 to 15 were measured.
August 16	-	Farmer interviews for the crop inventory were begun.
August 21	-	A runoff event occurred in the watershed.
August 29	-	The control at site 7 was reconstructed to provide better measurements of low flows.
October 5	-	Samples of soybeans were taken at site 2 to determine crop yield.
October 8	-	The farmer harvested soybeans at site 2.
October 16	-	Samples of corn were taken at site 1 to determine crop yield.
October 18	-	The control at site 4 was repaired by ISU and USGS personnel.
October 25	-	Core samples of the Four Mile Creek stream bed were taken at selected cross sections.
	-	The farmer harvested corn at site 1.
November 1	-	The farmer interviews were completed.
November 28	-	The gaging station and weather station were closed.
December 10	-	Phosphorus and potassium were spread at sites 1 and 2.

1980

January 16	-	A winter thaw produced a small runoff event in the watershed.
February 21-23	-	Snowmelt runoff occurred in the watershed.
March 14-16	-	Snowmelt runoff occurred in the watershed.
April 2	-	The weather station at the cooperator's farm and all rain gages in the watershed were opened.
April 23	-	An additional weather station at a farm house near the watershed was set up (site 37).
	-	Channel cross sections 5 to 8, 10, 11 and 15 were measured.
April 24	-	Channel cross sections 1 to 4, 9, and 12 to 14 were measured.

1980

April 30	-	Nitrogen fertilizer was spread at sites 2 and 3.
May 4	-	Corn was planted at site 2 by the farm operator.
May 5	-	ISU personnel assisted a farmer in watershed 8 to plant a field of corn using a no-till method.
May 7	-	Herbicides were applied at site 2 by ISU personnel, and soil sampling for herbicide analysis began.
May 12	-	Additional rain gages were installed throughout the watershed (sites 41 to 47).
May 21	-	Soybeans were planted by the farm operator at site 1.
May 23	-	Herbicides were applied at site 1 by ISU personnel, and soil sampling for herbicide analysis began.
May 29-30	-	Runoff events occurred in the watershed.
June 2	-	A runoff event occurred in the watershed.
June 17	-	Stream bed core samples were taken along Four Mile Creek.
	-	Channel cross sections 10 to 15 were measured.
June 20	-	An automatic sampler was installed at site 7.
June 30	-	Aerial photographs of the watershed were taken.
July 2	-	Single-stage samplers were installed at sites 6, 7 and 8.
	-	Channel cross sections 1 to 3, 5 and 9 were measured.
July 10	-	Channel cross sections 4, and 6 to 8 were measured.
July 23	-	Farmer interviews for the crop inventory were begun.
August 6	-	A runoff event occurred in the watershed.
August 11	-	A runoff event occurred in the watershed.
August 18	-	Gaging stations 7 and 8 were closed.
August 29	-	The weather station at the farm house was closed.
September 30	-	Crop samples were taken at sites 1 and 2 to determine crop yields.
	-	Soybeans were harvested at site 1.
October 1	-	Gaging stations 5 and 6 were closed by the USGS.
October 14	-	Corn was harvested at site 2.
October 23	-	The areas immediately upstream from the control structures at sites 1 and 2 were surveyed to determine the depth and density of the sediment deposited during 1980.
November 6	-	Channel cross sections 2 to 11 were measured.

1980

November 11 - Channel cross sections 1, and 12 to 15 were measured.

- All gaging stations and rain gages were closed.

SCHEDULE OF SOIL SAMPLING

Site 1

1979 --

5/8	- Background core samples for pesticide analysis were taken to 30 cm.
5/8	- Volume samples for pesticide analysis were taken immediately after herbicide application.
5/9	- Volume samples for pesticide analysis were taken.
5/10	- Volume samples for pesticide analysis were taken.
5/11	- Volume samples for pesticide analysis were taken.
5/13	- Volume samples for pesticide analysis were taken.
5/15	- Volume samples for pesticide analysis were taken.
5/18	- Volume samples for pesticide analysis were taken.
5/21	- Core samples for pesticide analysis were taken to 30 cm.
5/29	- Core samples for pesticide analysis were taken to 30 cm.
6/5	- Core samples for pesticide analysis were taken to 30 cm.
6/7	- Core samples for nutrient analysis were taken to 150 cm, with selected samples taken to 300 cm.
6/11	- Core samples for pesticide analysis were taken to 30 cm.
6/14	- Core samples for pesticide analysis were taken to 30 cm.
6/26	- Core samples for pesticide analysis were taken to 30 cm.
6/29	- Core samples for nutrient and pesticide analysis were taken to 30 cm.
7/6	- Core samples for pesticide analysis were taken to 30 cm.
7/16	- Core samples for nutrient and pesticide analysis were taken to 30 cm.
8/1	- Core samples for pesticide analysis were taken to 30 cm.
8/14	- Core samples for nutrient analysis were taken to 150 cm.
11/16	- Core samples for nutrient analysis were taken to 150 cm.

1980 --

5/22	-	Background core samples for pesticide analysis were taken to 30 cm.
5/23	-	Volume samples for pesticide analysis were taken immediately after herbicide application.
5/26	-	Volume samples for pesticide analysis were taken.
5/31	-	Core samples for pesticide analysis were taken to 30 cm.
6/5	-	Core samples for pesticide analysis were taken to 30 cm.
6/10	-	Core samples for nutrient analysis were taken to 150 cm.
6/18	-	Core samples for pesticide analysis were taken to 30 cm.
7/1	-	Core samples for pesticide analysis were taken to 30 cm.
7/22	-	Core samples for pesticide analysis were taken to 30 cm.
11/4	-	Core samples for soil moisture analysis were taken to 150 cm.

Site 2

1979 --

5/20	-	Background core samples for pesticide analysis were taken to 30 cm.
5/21	-	Volume samples for pesticide analysis were taken immediately after herbicide application.
5/22	-	Volume samples for pesticide analysis were taken.
5/23	-	Volume samples for pesticide analysis were taken.
5/25	-	Volume samples for pesticide analysis were taken.
5/27	-	Volume samples for pesticide analysis were taken.
5/30	-	Volume samples for pesticide analysis were taken.
6/4	-	Volume samples for pesticide analysis were taken.
6/5	-	Core samples for pesticide analysis were taken to 30 cm.
6/7	-	Core samples for nutrient analysis were taken to 150 cm, with selected samples taken to 300 cm.
6/11	-	Core samples for pesticide analysis were taken to 30 cm.
6/14	-	Core samples for pesticide analysis were taken to 30 cm.
6/19	-	Core samples for pesticide analysis were taken to 30 cm.
6/26	-	Core samples for pesticide analysis were taken to 30 cm.

1979 --

6/29	- Core samples for nutrient and pesticide analysis were taken to 30 cm.
7/6	- Core samples for pesticide analysis were taken to 30 cm.
7/16	- Core samples for nutrient and pesticide analysis were taken to 30 cm.
8/1	- Core samples for pesticide analysis were taken to 30 cm.
8/14	- Core samples for nutrient analysis were taken to 150 cm.
11/16	- Core samples for nutrient analysis were taken to 150 cm.

1980 --

5/5	- Background core samples for pesticide analysis were taken to 30 cm.
5/7	- Volume samples for pesticide analysis were taken immediately after herbicide application.
5/9	- Volume samples for pesticide analysis were taken.
5/11	- Volume samples for pesticide analysis were taken.
5/14	- Volume samples for pesticide analysis were taken.
5/19	- Core samples for pesticide analysis were taken to 30 cm.
5/26	- Core samples for pesticide analysis were taken to 30 cm.
5/30	- Core samples for pesticide analysis were taken to 30 cm.
6/5	- Core samples for pesticide analysis were taken to 30 cm.
6/10	- Core samples for nutrient analysis were taken to 150 cm.
6/18	- Core samples for pesticide analysis were taken to 30 cm.
7/3	- Core samples for pesticide analysis were taken to 30 cm.
7/24	- Core samples for pesticide analysis were taken to 30 cm.
11/4	- Core samples for soil moisture analysis were taken to 150 cm.

Site 3

1979 --

6/8	- Core samples for nutrient analysis were taken to 150 cm.
8/16	- Core samples for nutrient analysis were taken to 150 cm.
11/16	- Core samples for nutrient analysis were taken to 150 cm.

1980 --

6/10 - Core samples for nutrient analysis were taken to 150 cm.

11/4 - Core samples for soil moisture analysis were taken to 150 cm.